FLIGHT

First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER.

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM.

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EDITORIAL COMMENT.

Prize for British Engines.

The anticipated *communiqué* on the subject of the promised naval and military aeroplane engine competition is to hand, and is published *in extenso* elsewhere. It provides for a prize of £5,000 in respect to the "best" motor, and definitely promises orders aggregating £40,000 to entrant of that and other satisfactory engines. We assume, although it is not stated, that these orders will be given up to the full amount at the same time that the first prize itself is awarded. As the orders are infinitely more important than the prize, any other procedure would obviously be improper.

Those who intend to enter for this event have a clear seven months in which to get ready, for the competition is dated to commence on the 1st of February next year. The event is solely for British-built engines, and the memorandum specifically states that this shall apply inclusively to the entire apparatus submitted. Competitors would be well advised, therefore, to protect themselves in respect to any purchased articles that they incorporate in their designs, by written guarantees of their British origin.

The requirements to be fulfilled are brief and to the point. Apart from the question of origin, the most interesting and most important items are that the horse-power must not be less than 90 nor more than 200, that the number of cylinders must exceed four, and that the gross weight per horse-power, inclusive of fuel and oil for six hours, must not exceed 11 lbs. In the gross weight everything is included except the tank for the petrol and the feed pipe to the carburettor.

In the Military Aeroplane Trials of last year, there was only one engine, the 120-h.p. Austro-Daimler, that was commonly accepted as developing a power greater than the minimum specified for this competition. The next most powerful engine employed in those trials was the 100-h.p. Gnome, which is ordinarily reckoned as giving 80 effective h.p. The Austro-Daimler consumed 9 gallons of petrol per hour, which, assuming that it was developing its rated output and that the spirit was 0·72 specific gravity, is equivalent to a fuel consumption of 0·54 lb. per h.p. per hour. That is to say, for 6 hours the fuel required would be 3¼ lbs. per h.p. The oil consumption of this engine was exceedingly low, amounting to less than half a gallon an hour.

The 100-h.p. Gnome engines in the Military Aeroplane Trials demonstrated a mean consumption of 8·7 gallons of petrol per hour, and 1·9 gallon of lubricating oil per hour. On the basis of 80-h.p. effective, they consumed 0·78 lb. of fuel per h.p. per hour, and so would require 4·7 lbs. of petrol per h.p. for a six hours' run. Added to this is the weight of the oil, amounting to about 1·3 lb. per h.p. for a six hours' run. The combined weight of the fuel and oil is thus in the order of 6 lbs. per h.p. for 6 hours' run, thus leaving a balance of 5 lbs. per h.p. for the weight of the engine and its accessories that must not be exceeded under the terms of the forthcoming competition.

Several "desirable attributes" are enumerated in the notice to competitors, and if we eliminate the two first mentioned—light total weight and economy of consumption—as being arbitrarily limited by the requirements to be fulfilled, we find that the most important desirable attribute, judged by its position in the list, is absence of vibration.

Just how important this matter is seems not to have been fully appreciated even by some of those who have hitherto had a more or less direct connection with aeroplane engine construction. The full significance of the fact that so many aeroplane pilots have, so to speak,

been brought up on the smooth torque of the Gnome, seems sometimes to escape the notice of those who discuss what may be accomplished with fewer cylinders and high compression. The Gnome engine has, as everyone who has worked out their capacity is fully aware, very large cylinders for the power that it develops.

To its number of cylinders and to the low compression under which they operate the smooth torque of Gnome engines is due, and those who seek to produce satisfactory engines designed on lines more nearly approaching the practice that is common in automobile construction, find themselves faced with a problem of no mean difficulty when they come to study this all-important matter of engine vibration.

There is nothing that the average aeroplane pilot dislikes so much as an engine that shakes his machine, and while he may get used to many things in the air, that particular sensation is one to which he maintains a strong aversion. The significance of the arbitrary ruling out of four-cylinder engines from the present contest, is in itself sufficiently significant of the importance that attaches to this aspect of the subject, for were the advisability of using more than four cylinders solely concerned with the rather high power required, it would be sufficient to leave such a matter to the discretion of the manufacturer without making it a point for special emphasis in the rules.

The point in question is of singular interest, especially to those who appreciate how much has been done with the four-cylinder engine on motor cars. The conditions of operating an engine on an automobile and on an aeroplane are, however, radically different, and never more so than when the effect of an occasional misfire in one cylinder is considered. It is, perhaps, the unpleasant consequences of a misfire that more than anything else puts the four-cylinder engine out of favour with the majority of those pilots who have used them.

Slow running under light load is another desirable attribute that is given a prominent place in the list. In this connection, the experience of automobile engineers is sufficient to indicate that the quality in question is mainly a function of proper carburation. A reliable and properly synchronised ignition is now so readily obtained that one may take this factor for granted.

The tests, according to the notice, will comprise two runs of six hours each at full power, or throttled down as may be desired by the judges. The engines will also be tested in an inclined position not exceeding 15 degrees; that is to say, on a slope not steeper than 1 in 4.

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A Reminiscence of the Wrights.

There is no doubt that Lieut.-Col. Squier made the speech of the evening at the Wilbur Wright Memorial Lecture, and we feel sure that his remarks, which follow the conclusion of Mr. Darwin's lecture in this issue, will be read with particular interest by all who were unable to be present.

Lieut.-Col. Squier is already well known to all the early readers of FLIGHT, on account of that very able paper of his on the Status of Military Aeronautics, which was published in the February 27th issue of our first volume. Then a major in the Signal Corps of the U.S. Army, Col. Squier is now Military Attaché to the American Embassy, and it was singularly appropriate that he should have been chosen to move the vote of thanks on the occasion of the first British tribute to Wilbur Wright's memory.

There is no one, probably, who was more closely in touch with the Wrights' early work, at any rate so far as it concerned the American Government, and Col. Squier gives an interesting insight into the drafting of that historic document by which the American Government invited tenders for aeroplanes before most people were thoroughly alive to the fact that any aeroplane had flown.

The issue of that document preceded the issue of the first number of FLIGHT by a very considerable period. It was originally published, in fact, in our parent journal, the *Auto.*, from which FLIGHT was eventually born. The *Auto.*, although nominally devoted to motoring, has always followed the policy of encouraging every application of the internal combustion engine, and for very many years before the founding of FLIGHT had regularly devoted a space to the recording of aeronautical news.

In the issue of January 18th, 1908, was given the full text of this remarkable document, together with some comment in light vein, suggesting that its arrival made us rub our eyes to see if we were asleep or awake, or had been indulging in a Rip Van Winkle rest.

In order properly to appreciate the situation, it should be explained that the same issue of the *Auto.* contained the official announcement of Henry Farman's "record flight" of one kilometre! By this flight he won the first Grand Prix of the air; it was a great achievement, for it was the first circular flight that had ever taken place under official observation. It was made on January 13th of 1908.

The U.S. Army aeroplane tender, however, had originally been issued in America on December 23rd of 1907, so that at the time of its initial publication the public at large had not even Farman's achievement to assist them in appreciating all that it portended.

The Wrights nevertheless had flown since the end of 1903, and before the end of 1905 they had made individual journeys in the air exceeding 20 miles in length. They invited no publicity for their work and it was little understood, but they satisfied the American Government of their ability to do the things they claimed, just as they also satisfied Col. J. E. Capper, who was the first to visit them officially from this country. Thus, although the tender appeared to be many years ahead of its time, it was, in fact, no more than the Wrights themselves were certain of fulfilling, and it was drawn up with their full knowledge and approval.

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The Round Britain Flight.

The Royal Aero Club's rules for the *Daily Mail* Round Britain Flight, which is also for a prize of £5,000, has come to hand almost simultaneously with the *communiqué* relating to the Naval and Military Aeroplane Engine Competition.

As prepared on paper, everything in connection with the *Daily Mail* event is nicely cut and dried, but a series of asterisks against certain important places continue to call attention to the fact, already commented upon in these columns, that the Home Office does not at present approve of the itinerary in these particulars.

This is, of course, an all important matter, and we can only hope that the authorities will in due course display a broad-minded sensibility in their administration of the Act. In the event of war, it is aircraft of the material rather than the "verbose" kind that will be effective against those who seek to disturb the peace of those secret places that the Act has gratuitously enumerated and advertised to all interested persons.

That the first serious application of the law in this matter should be directed towards the discouragement of

MEN OF MOMENT IN THE WORLD OF FLIGHT.

Pilot-Constructor.

MR. G. M. DYOTT.

aviation in this country is about the last thing that even the most pessimistic Britisher would have expected of those in power. It is all very well for ministers to say they are not interfering, but the fact remains that the attitude of the authorities in this matter indicates a far greater respect for the "letter" of a hastily made Act than it does for the infinitely more important spirit of encouragement, which so much needs fostering in Britain.

The Aerial Derby has already had to be abandoned because, forsooth, the pilots might not cross the Thames. Is it necessary to query whether England has gained more by preventing certain pilots from having the opportunity of seeing what it would never have occurred to any one of them to look at, than would have been gained by the stimulus derived from the event?

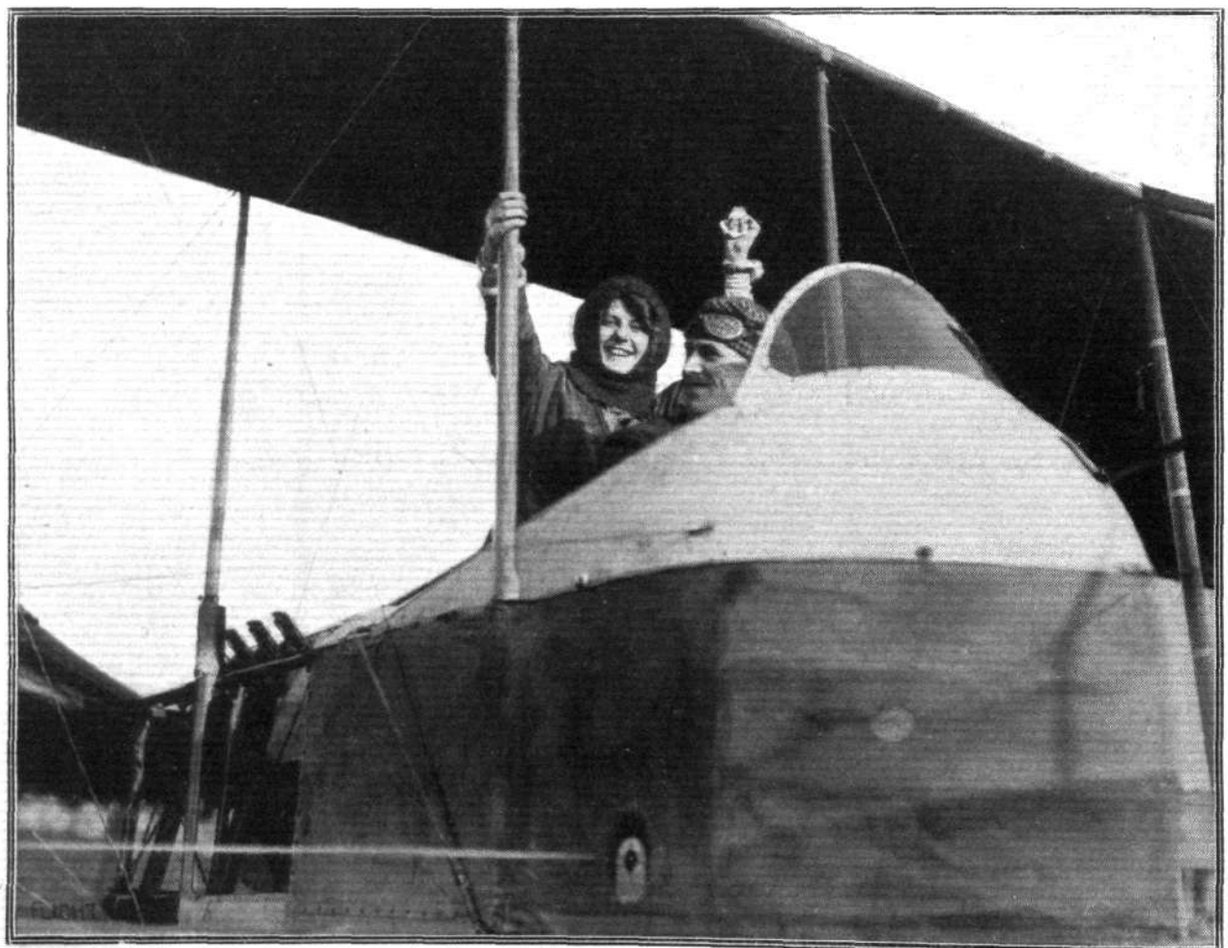
It is not that the event in itself is necessarily so much. The world goes on, and the day follows the night in spite of more important things than this. If the Round Britain Race itself were abandoned, the majority of people would never think twice about it. It is so easy to slide down hill, so difficult to create and maintain the enthusiasm on which the progress of aeronautics so much depends. It may be that this is the very end which, by official action, is being sought after, so that all the bothering business about having to look after Imperial Aerial Defence may be a thing forgotten and dead.

In an event like the Round Britain contest, it is highly improbable that any pilot would be inclined to pay much attention to the secret places over which he might pass, and in any case the event as it stands at present is confined to Englishmen. It is not much use discussing the matter further, but we do hope that the authorities may be able to meet the Club in such a way as to help towards the making of a successful event rather than in such a way as to put obstructions in the course of its proper accomplishment.

The full text of the regulations is published elsewhere, and the general scheme of the contest is already well known. The prize will be won by whosoever first completes the circuit within a total period not exceeding 72 hours. Subject always to Government sanction, the circuit starts from Southampton Water and proceeds *via* Dover, Yarmouth, Scarborough, Aberdeen, Inverness, Oban, Dublin, Falmouth, and again to Southampton Water. Controls are established at these places, and competitors must alight on the water and remain in the control for an interval of half an hour, during which time they will be inspected.

With the exception that the machine must not alight on land or on inland water (with the exception of the Caledonian Canal) competitors may go as they please, alight when they please, and make what repairs they please, provided that at least two marked parts of the engine and two marked parts of the machine are *in situ* at each control. A total of five marked parts on the machine and five marked parts of the motor will be officially marked at the start, which may be made at 6 o'clock on the morning of August 16th. The event finishes on August 30th, at 6 p.m.

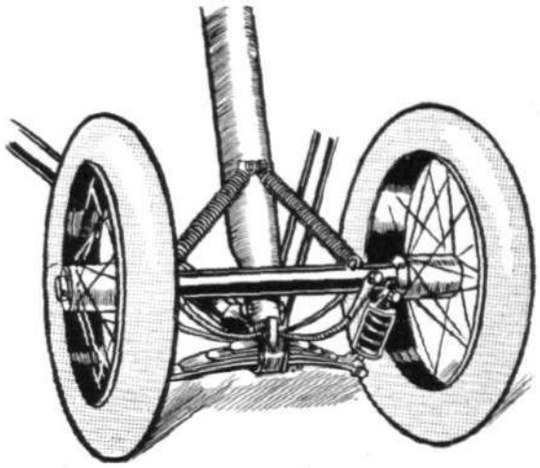
The places to which the Home Office objects are Southampton Water, Dover and Falmouth.



"I've won a flight!" A breezy snap at the London Aerodrome, Hendon, on Theatrical Aviation Sunday, when a ballot was taken for two flights by members of the theatrical profession. The passenger is Miss Margaret Swallow, who is about to take her flight with M. Verrier on the Maurice Farman.

maintenance of lateral stability is effected through stranded cables by means of two pedals.

From the pilot's seat, situated as it is well to the rear of the trailing edge of the planes, an exceptionally fine view of the country underneath is obtained, this being further facilitated by the absence of fabric in the central portion of the lower plane. Just behind the main spars, *i.e.*, approximately on the centre of pressure, is the observer's seat, formed by the front of the petrol tank, which is built into the *fuselage* between the two seats. In front of the observer is a starting handle by means of which he can start the engine without getting out of his seat.

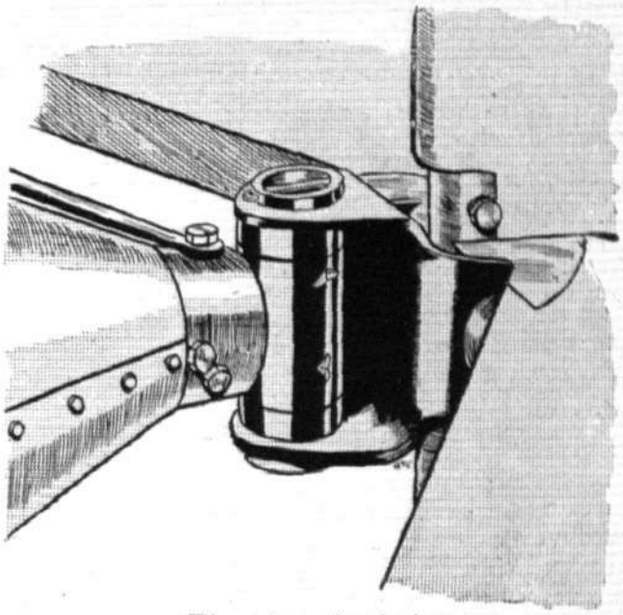


The front part of the landing chassis, showing transverse leaf-spring.

A supply of 48 gallons of petrol is carried in the main tank between the seats. A small pump of the rotary type, and driven by a miniature propeller working in the slip stream of the propeller, forces petrol from the main tank into a service tank under the cowl in front of the pilot, whence it is fed by gravity to the engine. Oil is carried in two small tanks, which have a capacity of 4 gallons each.

Mounted on strong steel bearers in the nose of the machine is the engine, which in this particular machine is a 7-cylinder radial Canton-Unné engine of 85-h.p. The fact that the engine is of the radial type allows of a very good stream-line, as only the valve rockers and tappets project outside the aluminium covering. As the engine is water-cooled it will be easily understood that there is no necessity to have the cylinders exposed to the air, and a considerable amount of head resistance is avoided by bolting a hemispherical shield to the boss of the propeller, thus completing the stream-line form of the *fuselage*. Water-cooling is effected by means of two radiators, consisting of a series of flattened brass tubes, and secured to the two inner plane struts.

One of the most noticeable departures from the original design is the landing chassis. This structure is constructed throughout of steel tubes, which have been

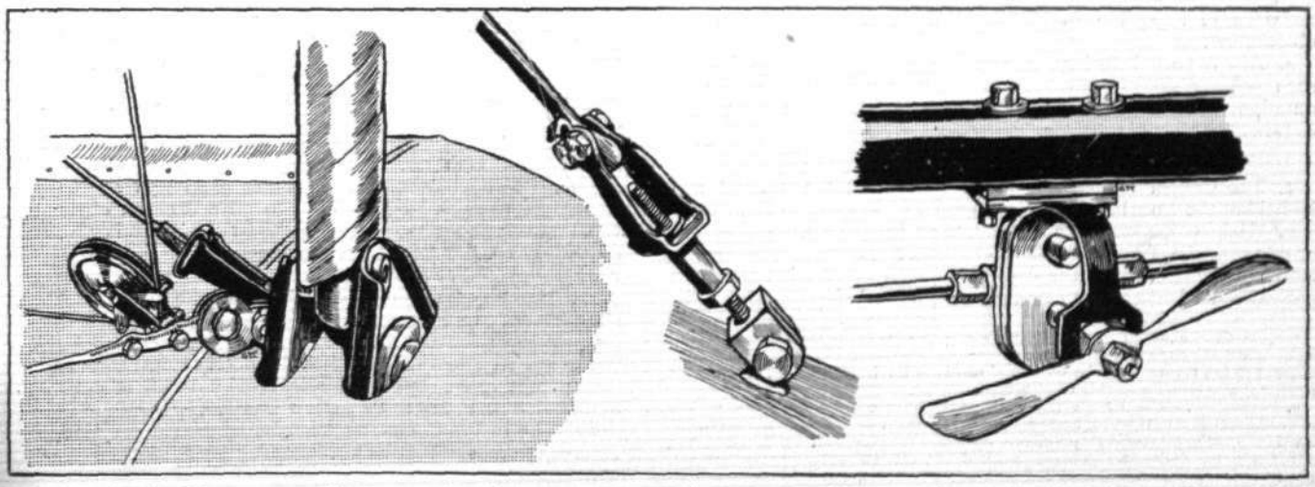


The universal tail-joint.

stream-lined with a casing of aluminium. The axle of the main wheels is supported on two telescopic tubes fitted with oleo-pneumatic springs for taking the shock in landing, while a pair of orientable wheels, sprung from the front member of the chassis, protect the propeller against contact with the ground.

A tail skid is not fitted, the rudder, as previously described, being sprung in such a manner that it performs the duty of a tail skid.

Owing to the great flexibility of the wings the machine has a large amount of natural stability, as a gust striking one wing simply raises the trailing edge without destroying the equilibrium of the machine. Another advantage of this flexible wing construction is that a very wide speed range is obtained. The weight of the machine empty is 1,550 lbs.



On the right, the Breguet petrol pump; in the centre, a typical strainer and its attachment to the plane. The left-hand sketch shows a flexible joint between a strut and main spar, with its adjacent fittings.

AEROPLANE ENGINE COMPETITION, 1914.

THE War Office have now issued the regulations governing the engine competition for the Naval and Military Wings of the Royal Flying Corps. The following is the notice of conditions to competitors :—

1. Prizes.

A prize of £5,000 will be awarded to the maker of the engine which, in the opinion of the judges, best fulfils the requirements and possesses the attributes stated below, and which is entirely suited for adoption for the aeroplane service.

Orders up to the value of £40,000 in all will be given to the makers of engines which fulfil requirements (and are satisfactory for use). The orders will not necessarily be confined to the prize winner.

Entrants of competing engines, up to the number of ten, which do not win the prize, but which, in the opinion of the Judges Committee, are useful aeroplane engines, will receive £100 in respect of each engine.

Oil and petrol will be supplied free for the tests. Those competitors who desire to use and supply their own fuel and lubricant shall state in writing, when making the entry, the make and constituents of such fuel and lubricant, and, if required, shall supply samples for test.

2. Requirements to be fulfilled.

1. Horse-power 90 to 200.
2. Number of cylinders : to be more than four.
3. Gross weight per horse-power : calculated for 6 hours' run, not to exceed 11 lbs.*
4. Shape of engine : to be suitable for fitting in an aeroplane.
5. Origin of engine : British manufacture throughout.

3. Desirable attributes.

The following are considered to be desirable attributes of an aeroplane engine :—

Light total weight.	Adaptable for starting otherwise than by propeller swinging.
Economy of consumption.	Accessibility of parts.
Absence of vibration.	Freedom from risk of fire.
Smooth running, whether in normal or inclined position, and whether at full power or throttled down.	Absence of smoke or of ejections of oil or petrol.
Slow running under light load.	Convenience of fitting in aeroplane.
Workmanship.	Relative invulnerability to small-arm projectiles.
Silence.	Economy (in bulk, weight, and number) of minimum spare part equipment.
Absence of deterioration after tests.	Excellence of material.
Simplicity of construction.	Reasonable price.
Suitable shape to minimise head resistance.	Satisfactory running under climatic variations of temperature.
Precautions against accidental stoppage, *e.g.*, dual ignition.	

4. Tests.

1. Two runs of 6 hours each, at full power or throttled down, as desired by the judges. Engines to be placed in inclined positions not exceeding 15° for short special runs.
2. The consumption of fuel and lubricant will be measured.
3. Engines to be dismantled by the competitors' mechanics between the runs if desired by the competitors or by the judges, but no work of any kind to be done on an engine except under observation.
4. At any period during the competition the judges may impose such other tests as they may desire, including runs of longer duration, in order to bring out the relative merits of competing engines.

Regulations.

1. The competition will begin on February 1st, 1914, and will be held at the Royal Aircraft Factory, Farnborough, Hampshire.
2. Each engine entered is to be delivered packed in a strong case or crate suitable for distant transport by rail and sea. The engine is to be complete within the case (except for re-erection from the packed condition) and is to be delivered, on or before January 15th, 1914, at the Royal Aircraft Factory, Farnborough, Hampshire, case to be clearly marked "Naval and Military Aeroplane Engine Competition."
3. Any communication required to be made in connection with this competition shall be addressed to the Secretary of the War Office, Whitehall, S.W., prior to January 1st, 1914, and thereafter at an address to be notified to the competitors by the Secretary. All letters relating to the competition are to be marked on the envelope and on the letter in the left top corner with the words "Naval and Military Aeroplane Engine Competition."
4. Any competitor may enter several engines, but not more than a pair (duplicates) of any one type.
5. Entries will be received by the Secretary of the War Office on or before August 1st, 1913.
6. Entries shall be made in writing on the form issued for the purpose by the Secretary, stating the name and address of the entrant, and the particulars of the engine, &c., in the spaces indicated for the purpose. A separate entry form shall be properly filled in for each engine entered.
7. The entry shall be signed, in the case of a corporate body, by the secretary or other person fully empowered to sign the name and bind the corporate body concerned.
8. Each entrant shall forward with his entry or entries a deposit of £50, returnable after the competition in the event of the engine or engines entered by him being duly delivered to take part in the competition.
9. The War Office may refuse any entry by sending notification of such refusal without reason given.
10. Competitors shall produce such vouchers, invoices and certified declarations as may be necessary to show that the whole of the various parts constituting the engine have been made and assembled in the United Kingdom.
11. Any entry containing any statement which, in the opinion of the Judges Committee, is misleading, may be declared null and void.
12. The entry of an engine for the competition is to be accompanied by a quotation of the price for orders of one, five, ten, twenty, or forty engines, and dates of delivery after orders.
13. The word "competitor" shall include any person or corporate body making entry for, or taking part in, the competition, and shall include the entrant's agents or mechanics.
14. The word "engine" shall be inclusive of the entire apparatus, as submitted.
15. The word "person" shall include one or more persons, or a corporate body.
16. Every "competitor" shall be presumed to be acquainted with, and shall submit to and be bound by, these regulations and any further instructions issued hereafter in regard to the competition. Any such further instructions shall be supplementary to, and shall not supersede, these regulations, unless with the consent of the Judges Committee. All words herein defined shall, in all such instructions, be deemed to bear the same meanings as herein expressed, unless the contrary is specifically declared in such further instructions.
17. The entrant shall be responsible for all acts or omissions on the part of his agents and mechanics, and each or any may be held responsible for any infraction of these regulations.
18. The competition and each item thereof may be postponed or any item abandoned at the discretion of the Judges Committee, and in the event of such postponement or abandonment no competitor shall, except as provided herein, have any claim against the Judges Committee, the Admiralty or War Office.
19. The supreme control of the competition will lie with the Judges Committee. Officials will be appointed by the Judges Committee.
20. The Judges Committee shall decide the winning and the approved competitors. Their decision shall be final and without appeal. Nevertheless, nothing herein shall prevent the Judges Committee from correcting a mistake. No decision of the Judges Committee shall give any claim to a competitor who is subsequently shown to have failed to observe these regulations, or who shall have been disqualified or otherwise have been ineligible.
21. The Judges Committee shall alone have power to interpret, alter, amend, or cancel any of these regulations and the other instructions issued relative to the competition, and to forego any test or any requirement, or to enforce other or further requirements in particular cases, either arbitrarily or with a view to obtaining the information necessary to make their award.
22. The Judges Committee shall be appointed conjointly by the Admiralty and the War Office.

War Office,
June, 1913.

* 1. *Definition.*—The gross weight per horse-power is the total weight of the motor divided by the figure for horse-power below which the output has not been allowed to fall throughout the six hours' run with a tolerance of 3 per cent. for small variations and accuracy of measurement, &c.

2. *Definition.*—The gross weight of the engine includes : the motor complete with carburation devices connected up, all ignition and oiling appliances, any starting handle, all cooling appliances, *e.g.*, fan, guarding, air guides, and any water radiator and water connections, and any oil left in the engine. It will also include all fuel and oil supplied for the six hours' run, and all oil containers and pipes therefrom. (The gross weight will not include petrol tanks and petrol pipes to the carburettor).

FLYING AT HENDON.

LAST Saturday's programme was spoilt to a certain extent by the gale that swept the country that day. At Hendon it had a velocity of between 35 to 40 m.p.h., which naturally put racing round the aerodrome out of the question. A very fine cross-country handicap was flown in spite of this, nevertheless. The course was to Elstree and back, and there were four starters. These were: H. M. Brock on the 35-h.p. Anzani-Deperdussin monoplane (2 mins. 15 secs. start); Louis Noel on the 70-h.p. G.-W.-Maurice Farman biplane (40 secs. start); Pierre Verrier on the 70-h.p. Aircraft-Maurice Farman biplane (20 secs. start); and Jules Nardini on his 50-h.p. Gnome-Deperdussin monoplane (scratch). All four pilots had a hard struggle with the wind, and Brock was beaten down at Elstree, where he had to land. The other three returned to the aerodrome safely and very close together. Nardini came in first, 13 secs. ahead of Verrier, who was only one-fifth of a second in front of Noel. Several exhibition flights were given by the above pilots during the afternoon, and Gustav Hamel executed one of the finest displays of airmanship that he has ever given, on a new 50-h.p. Gnome-Blériot monoplane. Considering the wind that was blowing, his bankings were wonderful. Later in the evening, F. Cheeseman and Marcus D. Manton made flights on the 50-h.p. Grahame-White biplane, but apart from this nothing further was done that day.

The next day, Sunday, was about as windy as it was the day before, and in addition a terrific rain-storm very effectually damped the proceedings of the day. This was a pity, for it was the occasion of the second Theatrical Aviation Meeting, and a large gathering of the "Profession" had been anticipated. However, a goodly number put in an appearance, nearly all the London theatres being represented, and many popular "stars" were to be seen. Three free flights were to be given to the three actresses who received the greatest number of votes from the readers of *The Era*. The lucky ones were Miss Margaret Swallow, Miss Georgina Milne, and Miss Emmy Wehlen. They were taken up by Pierre Verrier on the Aircraft-Maurice Farman in the evening, when the wind had somewhat decreased in violence. As is always the case, they were extremely delighted with their experiences, and considered the flights much too short.

Other aviators out were E. Cheeseman, on the Grahame-White biplane, and G. L. Temple, on his 35-h.p. Anzani-Caudron biplane. On low-powered machines, such as they were flying, they only attempted straights. A much interested and picturesque visitor on the Saturday was H.M. the King of Uganda, who is paying a visit to this country.

HENDON NOTES.

To-day, Saturday, is "North London Day" at Hendon, a special aviation meeting for the residents of North London having been arranged. All the Mayors of that part of London, as well as the Lord Mayor, have been invited to attend, and local notabilities have also received invitations. Two events will be decided, a cross-country handicap and a speed handicap. The former race will be flown for the North London Cup and money prizes. A free flight will also be given to the winner of a competition organized by *The North London Guardian*. After this meeting a special night flying demonstration will be given, in which the Willows airship will take part; a firework display depicting the "war in the air" will conclude the evening's programme.

These night flying demonstrations, which are both instructive and amusing, are to be a feature during the coming season, for I understand that it is intended to hold them fortnightly, on Thursdays and Saturdays. Some good "stunts" for these events are being thought out, so that we are likely to have something worth seeing.

The Grahame-White Aviation Co. are to be congratulated on their action over the matter of the state of the "road" at the bottom of Collindale Avenue. After numerous applications to those responsible for the upkeep of the said "road," without result, and the latter in the meanwhile getting worse and worse (if possible!), they took the matter into their hands and, with the help of a roller, &c., patched up the surface. It is now possible, therefore, to reach the aerodrome from the Edgware Road without being reminded of *mal de mer*. Whilst on the subject of roads, I believe that in the near future a new approach to the aerodrome will be opened from Hendon Church, enabling one to travel to and from the aerodrome via Golders Green.

I have to record yet another improvement to the aerodrome, which will, I expect, be ready for to-day's meeting. It consists of a smart kiosk where one may obtain an assortment of the literature of the day, "postcards of the flyers," &c., which promises to supply the usual long-felt want.

Amongst the many passengers who went up at Hendon on Sunday, the 1st inst., were several "Jack Tars" who had saved up sufficient cash to enable them to get a taste of the latest form of navigation. They went up with Lewis Turner on the 60-h.p. Caudron biplane, and were enthusiastic, as only such bonnie boys can be, at the finish of their joy rides.

HAMEL'S WEEK-END FLIGHT.

EVERY Sunday Mr. Gustav Hamel flies over to Brooklands on his Blériot monoplane and returns later in the evening to Hendon. Last Sunday, as everyone in the vicinity of London must very well remember, was a dreadfully gusty day, "unsettled, with rain at intervals," as the weather forecast would say. Mr. Hamel is not readily to be put off flying by any such inclemency, however; but the flight that he made on Sunday morning before lunch ranks as one of the hardest that he has ever undertaken. It is the more worthy of appreciation, inasmuch as it was just carried out in the ordinary course of things, the route being in the ordinary way a commonplace one; the mere event, as such, would not of its own accord attract attention.

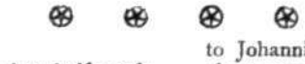
Several times during the flight Mr. Hamel had his machine beaten down from under him, while he had recourse to the full limit of the warping control and was yet unable to prevent the machine from heeling over to a considerable angle. Finally, while within a few miles from Brooklands, he was forced to alight, which is perhaps better proof of the severity of the weather than anything else could be. On *terra firma*, and in an exposed place, his predicament was less cheerful than in the air, so he started again and flew the remaining few miles to the aerodrome.

It was a remarkable opportunity for such a pilot to gain an appreciation of his machine, and when Mr. Hamel returned to Hendon he spoke enthusiastically of the new Blériot he is now flying. His return journey was also made in a considerable side wind, and his arrival was the reward that the Hendon crowd received for their patience.

When Hamel first appeared in the distance, his machine was about the size of the point of a pencil held at arm's length—a mere speck, located in the very centre of a snowy white cloud.

It was perhaps 2,000 feet or more above the ground, and at a great distance. Gradually it grew larger, and for a long while it looked just like a bird—and not a very big bird either—coming steadily across the wind on outstretched wings. At that distance it was impossible to distinguish anything precisely, but after a minute or two the definition improved immensely, and one could see the wings and the tail, and watch the flight accurately with the naked eye. The monoplane at that height seemed just like some little miniature with its white wings now outlined against the blue sky. Presently the hum of the engine came to the ear in waves of sound up the wind. It seems strange, but one can hear better a noise that is high up when the wind blows towards the object that is making the noise.

Straight overhead passed the machine, until it was above the centre of the Hendon aerodrome, and then Hamel commenced one of the spiral glides of which he is such a perfect exponent. With infinite grace the monoplane wheeled downwards on its course. It was a sight that one may often see when Hamel and other experienced pilots are flying, but it had a singularly beautiful setting on this particular occasion. It was one of those fresh clear evenings that are the joy of an English spring—it was, too, essentially a day on which flying had been far from general, and so the event was not just one incident among many, but a complete scene in itself—a scene that well repaid those enthusiasts who went to the Hendon aerodrome on such a day.



Paris to Warsaw for the Pommery Cup.

ACTIVE competition for Pommery Cup for the last half-yearly period has soon commenced, a magnificent start being made on Tuesday by Brindejonc des Moulinais' flight from Villacoublay to Warsaw. Leaving the Villacoublay aerodrome at 4 a.m., he reached Wanne, in Westphalia, at 9 a.m., and after an hour's rest went on to Johannisthal, where, with a strong following wind, he arrived about noon. During the afternoon Brindejonc des Moulinais remounted his Morane-Saulnier monoplane, and arrived safely at Warsaw at 6.15 p.m., having covered a distance of about 875 miles. He intended to continue his flight to St. Petersburg on Thursday.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

DAILY MAIL £5,000 PRIZE.

Circuit of Great Britain.

(*Under the Competition Rules of the Royal Aero Club.*)

The proprietors of the *Daily Mail* have offered the sum of £5,000 to be awarded to the entrant of the aeroplane which shall first have completed a prescribed circuit round Great Britain in flight within a period not exceeding 72 hours.

Special Regulations.

1. *Date of Contest.*—The competition will open on Saturday, August 16th, 1913, at 6 a.m., and will finish at latest on Saturday, August 30th, 1913, at 6 p.m.

Should no aircraft have completed the course within the stipulated time, the proprietors of the *Daily Mail* reserve to themselves the right to extend the period or to put off the competition till the following year.

2. *Qualification of Competitors.*—Both the entrant and pilot or pilots must be British subjects and duly entered on the Competitors' Register of the Royal Aero Club. Pilots must hold an aviator's certificate issued by the Royal Aero Club or other club affiliated to the International Aeronautical Federation.

A passenger must be carried throughout the flights, and the combined weight of the pilot and passenger must be not less than 264 lb., any deficiency in weight being made up by means of ballast. Pilots and/or passengers may be changed during the contest.

3. *Qualification of Aircraft.*—The complete aircraft and all its parts, including the motor, must have been entirely constructed within the confines of the British Empire, but this provision shall not be held to apply to raw material.

4. *Entries.*—The Entrance Fee is £100 per aircraft, and entries will be received up to 12 o'clock, noon, July 16th, 1913. The Entrance Fee of £100 is payable either in one sum or as follows :—

£50 by noon on July 16th, 1913.
£50 by noon on August 1st, 1913.

Late entries will be received up to 12 noon, August 1st, 1913, in which case the Entry Fee will be £150.

The Entry Form, which must be accompanied by the Entrance Fee, must be sent in to the Secretary, Royal Aero Club, 166, Piccadilly, London, W.

No part of the Entrance Fee is to be received by the *Daily Mail*. All amounts received will be applied towards payment of the expenses of the Royal Aero Club in conducting the competition. Any balance not so expended will be refunded to the entrants.

5. *Course.*—The course will be a circuit starting from *Southampton Water and proceeding *via*

*Dover, Scarborough, Inverness, Dublin,
Yarmouth, Aberdeen, Oban, *Falmouth,

and in that order, and returning to *Southampton Water.

6. *Controls.*—The controls will be situated at or near each of the above places, and competitors must alight at each of these controls for purposes of identification.

The aircraft must remain 30 minutes in each control, during which time it will be examined by the officials. This time will not count in the 72 hours.

7. *Starting and Finishing Place.*—The start and finish will be made on *Southampton Water.

Competitors will be at liberty to start at 6 a.m. on Saturday, August 16th, 1913, or at any subsequent time and date, provided the complete circuit is accomplished by 6 p.m. on Saturday, August 30th, 1913, within the stipulated 72 hours.

All starts must be made under the supervision of the official of the Royal Aero Club and of the official timekeeper.

There is no restriction as to the number of starts made by a competitor, but in every case the start must be made from the official starting place on *Southampton Water.

8. *Stoppages.*—Stoppages between the controls are not prohibited, but all alightings must be effected on the sea, an inlet of the sea, an estuary, or a harbour. An alighting on land or inland water will terminate the attempt. (For the purpose of this contest the Caledonian Canal will be considered as the sea.)

9. *Towing.*—Towing is not prohibited, but the finishing line must be crossed in flight.

10. *Repairs.*—Individual replacements and repairs to the aircraft and motor may be made *en route*, but neither may be changed as a whole. The aircraft may be taken ashore for such repairs and replacements. Any time thus spent on repairs will count in the 72 hours.

No repairs or replenishments may be effected during the 30 minutes allowance for official inspection in controls.

Five parts of the aircraft and five parts of the motor will be stamped or otherwise marked, and at least two marked parts of each of these five must be in place on arrival at each control.

11. *Identification of Aircraft.*—Competitors must have their aircraft completely erected at a place appointed by the Club at *Southampton, and must hand them over to the officials for the purposes of being marked. No competitor will be allowed to start until 24 hours have elapsed from the time of so handing over his aircraft. After being originally marked by the officials no fresh parts will be marked.

12. *Time Cards.*—Each competitor before starting will be supplied with a card, which must be handed to and signed by the Club official at each control. A competitor is alone responsible for the safe custody of his card.

13. *Safety Appliances.*—Competitors and their passengers must be equipped with life-belts or other appliances for keeping themselves afloat.

14. *Shed Accommodation.*—Accommodation for the aircraft will be provided at or near *Southampton free to each competitor from 9 a.m., Monday, August 11th, 1913, till two days after the closing of the contest.

15. *Examination at Final Control.*—Each aircraft, after passing the finishing line, must, if required by the Club, remain for exhibition and examination for at least 24 hours from the time of arrival.

General.

1. A competitor, by entering, thereby agrees that he is bound by the regulations herein contained or to be hereafter issued in connection with this competition.

2. The interpretation of these regulations or of any to be hereafter issued shall rest entirely with the Royal Aero Club.

3. The competitor shall be solely responsible to the officials for the due observance of these regulations, and shall be the person with whom the officials will deal in respect thereof, or of any other question arising out of this competition.

4. A competitor, by entering, waives any right of action against the Royal Aero Club or the proprietors of the *Daily Mail* for any damages sustained by him in consequence of any act or omission on the part of the officials of the Royal Aero Club or the Proprietors of the *Daily Mail* or their representatives or servants or any fellow competitor.

5. The aircraft shall at all times be at the risk in all respects of the competitor, who shall be deemed by entry to agree to waive all claim for injury either to himself, or his passenger, or his aircraft, or his employees or workmen, and to assume all liability for damage to third parties or their property, and to indemnify the Royal Aero Club and the proprietors of the *Daily Mail* in respect thereof.

6. The Committee of the Royal Aero Club reserves to itself the right to add to, amend or omit any of these rules should it think fit.

** The Home Office do not at present approve of the starting place and controls marked by an asterisk.*

Public Safety and Accidents Investigation Committee.

This Committee met on the 2nd and 10th insts., when there were present :—Col. H. C. L. Holden, C.B., F.R.S., in the Chair, Mr. A. E. Berriman, Eng.-Lieut. E. F. Briggs, R.N., Mr. G. B. Cockburn, Mr. J. H. Ledeboer, Mr. F. K. McClean, Mr. W. O. Manning, Mr. Alec Ogilvie, Mr. Mervyn O'Gorman, C.B., Maj.-Gen. R. M. Ruck, C.B., R.E., Com. C. R. Samson, R.N., and the Secretary.

Fatal Accident to Lieut. Desmond L. Arthur at Montrose.—Major F. H. Sykes, Commandant of the Military Wing of the Royal Flying Corps, Major C. J. Burke, O.C. of No. 2 Squadron, Montrose, and Major Brooke-Popham, O.C. of No. 3 Squadron, Larkhill, attended at the invitation of the Committee and gave evidence.

Mr. Green and Mr. Peters of the Royal Aircraft Factory attended, and produced plans and sections of the aircraft, and gave evidence on various points raised by the Committee.

The report of the Club representatives who visited Montrose, together with evidence of eye-witnesses taken on the spot by them, was considered.

The Committee proceeded to draft its report, which will be issued in the course of the next few days.

Competitions Committee.

A meeting of the Competitions Committee was held on Tuesday, June 10th, 1913, when there were present :—Col. H. C. L. Holden, C.B., F.R.S., in the Chair, Mr. Ernest C. Bucknall, Mr. G. B. Cockburn, Prof. A. K. Huntington, Major F. Lindsay Lloyd, Mr. J. T. C. Moore-Brabazon, Mr. Alec Ogilvie, Mr. Mervyn O'Gorman, C.B., and the Secretary.

"Daily Mail" Cross-Atlantic Flight, £10,000.—The rules for this competition were drafted and approved.

166, Piccadilly, W. HAROLD E. PERRIN, Secretary.

FLIGHT

FROM THE BRITISH FLYING GROUNDS.

Brooklands Aerodrome.

MONDAY, last week, Mr. Gordon Bell, on the Martinsyde monoplane, with Mr. F. G. Andreae as passenger, made a fine flight to Eastchurch, covering the journey of 65 miles (allowing for detours round towns *en route*) in 44 minutes. Lieuts. Anderson and Porter, on B.E. 203 and 204, flew back to Lark Hill.

On Thursday, Mr. Ronald Kemp came over from Farnborough on a B.E. biplane, and took back with him as a passenger Mr. Orr Paterson, one of the Vickers pupils, reaching an altitude of over 3,000 ft. on the return journey.

Mr. Hamel flew over from Hendon on Sunday on his new single-seater Blériot monoplane fitted with a 50-h.p. Gnome engine, arriving at 1.30 p.m., after the roughest journey he has ever experienced on this course, as it took him 1 hour 20 minutes to cover the 21 miles, which is rather a big contrast with his fastest time of 12 minutes. Later in the afternoon he made several fine exhibition flights in a wind which was blowing up to 30 miles an hour. Next Sunday, Mr. Hamel expects to fly to Brooklands on his new double-seater (80-h.p. Gnome) Blériot, on which he will be able to arrange passenger flights.

Mr. Hawker was out on both the Sopwith tractor biplanes, and made some fine flights up to 2,000 ft. with passengers, the first of whom was Commander Samson, R.N.

The winner of the ballot for the free flight was Mr. E. Elms, of Chertsey Road, Byfleet, who had a most enjoyable trip, at an altitude of nearly 2,000 ft., with Mr. Hawker on the record-breaking Sopwith tractor biplane.

The Bomb Dropping and Alighting Competition had to be post-poned until next Sunday owing to the gusty wind.

Bristol School.—Merriam out for test on Monday last week, then behind Mr. Richard Powell on straights and circuits, having full control. Lieut. Duncan then away for the second half of his *brevet* which he obtained in excellent style, landing right on the mark; his landings were particularly good. Lieut. Noott flying a good solo; afterwards Merriam finished with a solo, as it was too bad for school work.

In the afternoon Merriam for test, then with Mr. Liche (prospective pupil), afterwards with Captain Shott (new pupil), Lieut. Noott, and Messrs. Richard Powell and Skene, all out making figures of eight at 300 feet with *vol planés* in good style. Merriam finished with a solo to the hangars.

Merriam first out on Tuesday, Lieut. Noott following, flying solos and practising landing near a mark. This pupil is an exceedingly good flyer and can take his ticket when he wishes. Bendall for test on another machine, then up with Capt. Shott and Mr. Skene. Merriam with some pupils and with Mr. Grahame Harris, this pupil then flying some good straights alone. Merriam and Bendall finished with a circuit each to the sheds. At 5.30 p.m. Bendall for test, then with Messrs. Richard Powell, Skene, and Bernard Howard. Merriam, with Capt. Shott, Messrs. Richard Powell and Skene after testing machine. Mr. Grahame Harris doing fairly good straights. Lieut. Noott up twice for figures of eight splendidly. Lieut. Morgan circuits and figures of eight twice. Merriam and Bendall finished with a solo each, being too dark for further work.

Bendall for solo on Wednesday, then with Capt. Shott, Messrs. Bernard, Howard, Skene, and Richard Powell (twice). Lieut. Noott practising *vol planés* with engine cut off. All pupils had two more turns each, but then the wind put an end to further flying for a while. 7.0, Merriam for test, then with Capt. Shott (twice), afterwards with Mr. Skene. Bendall for test, then with Lieut. Noott; later this pupil alone. Darkness stopped further flying.

Merriam for test on Thursday, afterwards behind Mr. Skene, and afterwards behind Mr. Richard Powell on several straights and circuits. Lieut. Noott doing fine *vol planés* from a good height. All pupils then had three turns each. Merriam finished with solo, the wind having got up. No flying in the afternoon or evening owing to wind.

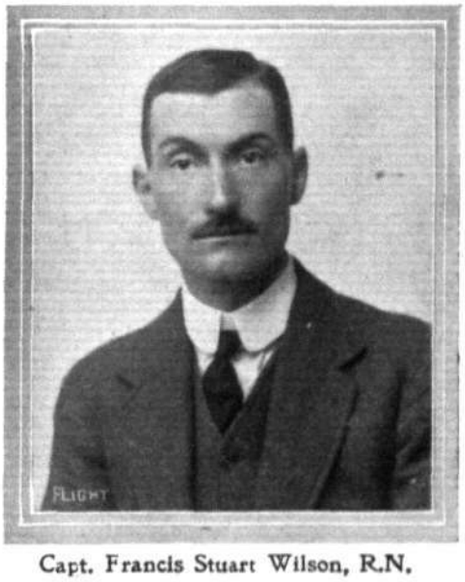
Wind and rain all Friday morning, afternoon and evening. Saturday the same, so no outside work possible.

Vickers School.—Monday, last week, Knight (pilot) and Messrs. Andreae, Mitchell and Orr Paterson straights on No. 2 mono. Barnwell on biplane with Capt. Balfour, Knight, Mitchell and Barnwell on No. 3 mono.

Tuesday, on biplane, Barnwell with Capt. Balfour. Mr. Mitchell and Mr. Beevor solo flights. Knight with Mr. Beevor. Messrs. Barnwell, Orr Paterson and Mitchell on No. 2 mono. Barnwell with prospective pupil on biplane.

Lieut. B. Malcolm Wallace Duncan, R.A.

Lieut. Paul Augustine Broder, 5th Worcestershire Regt.



Capt. Francis Stuart Wilson, R.N.

Three pilots who have recently taken their Royal Aero Club certificates at the Bristol school at Brooklands.

Barnwell on biplane solo Wednesday. Knight with Mr. Beevor. Mr. Beevor alone. Messrs. Mitchell, Barnwell and Knight on No. 2 mono.

Thursday, Barnwell with Mr. Beevor and Major Brancker on biplane. Knight with same pupils. Barnwell with prospective pupil and with Major Brancker. Sunday, Knight on biplane.

Eastbourne Aerodrome.

Owing to the fact that the school machines have been undergoing a thorough overhaul, very little instruction has been given during the past few weeks. However, the work of overhauling is now well in hand, and by the end of the week there is every possibility of the school being busy again. Several of the pupils have made good use of the slack time, especially Mr. Fill, who has completely built up a Blériot type *fuselage* and chassis. He intends fitting a 35-h.p. Anzani, and judging by the excellent work he has put into it up to the present, the machine, when finished, will be a credit to him. Mr. Bevis has also been putting in a good deal of time in the workshop, and has been helping to overhaul a Gnome engine.

One of the Henry Farmans was finished about a fortnight ago, and Fowler has made a number of flights on the machine, carrying passengers on nearly every occasion. On Tuesday last he made several extended flights over the surrounding country, taking up Lieut. Brown and Mr. Rudd as passengers. There was also a good bit of flying on Wednesday afternoon. Lieut. Brown, R.N., who has returned to the school for monoplane instruction, was out practising on the 35 Blériot. Fowler went up on his old 50 Gnome-Blériot for a short time, and then handed her over to Gassler, who made two good flights of about 15 minutes each. This was the

first time Gassler had been on a fifty, and he handled the machine very well indeed.

The waterplane sheds are now completed, and one of the Henry Farmans will be flown over as soon as the weather moderates.

London Aerodrome, Collindale Avenue, Hendon.

Grahame-White School.—Lieut. Evill out last week at 5 a.m. doing straights on No. 7. R. H. Carr circuits on No. 109, followed by Sir Bryan Leighton doing straights on same machine. Sir A. H. Sinclair straights with Instructor Cheeseman. Mr. A. G. Power out 7.45 doing straights and circuits.

Monday, Mr. A. G. Power out at 4.30 doing figure eights on *brevet* machine. Lieut. Evill straights with Instructor Noel. 5.15, A. G. Power out for *brevet*; 5.50, R. H. Carr also doing *brevet* tests, both these pupils passing all tests in first class style. Lieut. Boddam-Whetham out at 7.10 p.m., rolling, on No. 7 machine, with Instructor Manton in passenger seat, afterwards alone.

Lieuts. Moore, Evill, Eales, and Boddam-Whetham all out Tuesday, getting good practice, under Instructor Noel, at 4.30 a.m. Sir A. Sinclair and Lieut. Moore straights with instructor and afterwards alone. H. E. Russell (new pupil) rolling with Instructor Manton, afterwards practising alone.

Lieut. Moore out at 4.30 a.m., Wednesday, doing straights with instructor, followed by Lieuts. Boddam-Whetham and Eales. Lieut. Evill doing solo straights. Mr. Russell, after practising rolling alone, doing straights with Instructor Cheeseman.

Work began 5 a.m., Thursday, Lieut. Evill solo straights, also Sir A. H. Sinclair. Lieuts. Eales, Moore, Boddam-Whetham and Mr. Russell all doing straights with instructor. Friday, windy morning. All outdoor school work had to be abandoned.

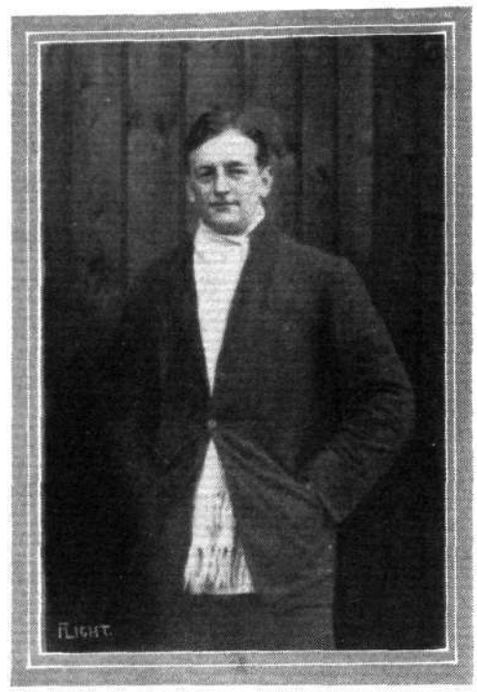
Blériot School.—On Tuesday morning last week Mr. Reilley went up for his *brevet* and flew the first batch of five eights very well, but was not able to start on the second half. On Thursday morning Mr. Gower had his first practical lesson on taxi 1 and did a very good initial attempt, especially so as there was quite a lot of wind on. Lieut. Low was also out on the same machine, but could not put in much practice as the wind rose steadily and remained fairly high all the rest of the day, thus preventing any further school work. During the rest of the week the weather was bad and the school staff has taken the opportunity of overhauling and adjusting the machines.

British Deperdussin School.—Too windy for school, Monday, last week, but in the evening Lieut. Porte up for 10 mins. in 100-h.p. at 1,000 ft., then took Capt. Halahan for 15 mins. at 1,500 ft.

Mr. F. W. Goodden, who has successfully passed his *brevet* on a 35-h.p. Caudron at the W. H. Ewen school.

In early morning, Tuesday, Mr. Hudson three circuits on No. 3, then went for *brevet* tests. First flight at 250 ft., landing dead on mark; second flight 350 ft., landing 20 ft. from mark; very small neat eights, splendid flights. Mr. Baumann, three circuits at 150 ft. doing very well. Lieut. Brock, four straights on No. 2, also Col. Smyth and Mr. Jaques. In evening wind calmed down, and Mr. Baumann, on No. 3, flew a circuit and two figures of eight then went for *brevet* tests, landing second flight on the mark. Col. Smyth then on this machine for the first time, rolling. Lieut. Porte made two flights on 100-h.p., taking up Mr. Hudson and Lieut. Brock in turn.

Wednesday, Col. Smyth and Lieut. Brock 7 mins. each on No. 3. Mr. Jaques and Mr. Murray 15 mins. each rolling on



Lieut. William C. Hicks, R.N., who secured his Royal Aero Club certificate on a Caudron biplane at the W. H. Ewen school.

No. 2. Lieut. Porte left for Brighton with Mr. Brock as passenger in 100-h.p. against strong head wind, taking 1½ hrs. to get there.

Thursday, Col. Smyth and Lieut. Brock each 5 mins. on No. 3 flying straights, Mr. Jaques and Mr. Murray rolling on No. 2. Lieut. Porte and Mr. Brock flew from Brighton to Gosport in 100-h.p.

No school Friday; too windy. Saturday, at 7 p.m., Lieut. Porte started with Capt. Halahan as passenger in 100-h.p. to Hendon. Mist very thick; could not see landmarks, so came down.

Mr. Brock entered 35-h.p. in cross-country race, but engine trouble forced him to abandon race when half through.

Sunday, Lieut. Porte and Capt. Halahan again started for Hendon from Gosport at 5 a.m., but heavy rain and mist prevented. At 7 p.m. it cleared and Lieut. Porte flew to Brighton with a passenger and on to Hendon the next morning, doing latter journey well under the hour.

W. H. Ewen School.—A considerable amount of school practice and exhibition work has been put in last week.

On Monday the pupils were out at 4.20 a.m. when M. Baumann, after testing the 35-h.p. Caudron No. 2, handed the machine over to Lieut. Bewes, who made several short flights in good style. The wind rising put a stop to further school work. M. Baumann, however, put up a splendid flight on the 35-h.p. Caudron No. 2, reaching an altitude of 3,000 ft. and finishing with a steep *vol plané*. Later, Mr. L. W. F. Turner made several flights on the new 45-h.p. Caudron.

The school was out at 4.30 a.m. on Tuesday, when Mr. Turner, after test flight on 35-h.p. Caudron No. 1, handed the machine over to F. W. Goodden, who flew several circuits in good style, later going for his *brevet* tests which he passed in an excellent and confident manner, flying at an average altitude of 300 ft. and landing on the mark. M. Baumann was also getting good results from pupils on the 35-h.p. Caudron No. 2. After testing the machine he handed it over to Lieut. Bewes and Messrs. C. George and Pendlebury, who were making good progress in straight flights, while Messrs. Jagenburg and Cowling were rolling on the same machine. The pupils were again out at 6.10 p.m. M. Baumann made test flight on 35-h.p. Caudron No. 1, and then handed machine over to W. Warren who was doing circuits while H. Gist was making progress in straight flights. Messrs. Jagenburg and Cowling were hopping on 35-h.p. Caudron No. 2, while Messrs. C. George, Pendlebury, Prosser and Lieut. Bewes were making short

flights. M. Baumann was also out on the 60-h.p. Caudron during the afternoon, and climbed rapidly to a height of 3,000 ft. F. Goodden made a good flight on 35-h.p. Caudron No. 1, and later M. Baumann was again out on the 60-h.p. Caudron.

The pupils were out at 4.30 a.m. on Wednesday, when M. Baumann, after test flight on 35-h.p. Caudron, handed machine to Lieut. Bewes, who was making good progress in straight flights, and Messrs. George, Jagenberg, Pendlebury and Cowling, who were hopping and making good straight flights. Mr. Prosser also making excellent straight on same machine. M. Baumann also on 60-h.p. Caudron, flying at a high altitude and finishing with a spiral. School again out at 7.30 p.m., when M. Baumann made a test flight, after which he handed machine to Mr. C. George and Lieut. Bewes who were making straight flights, while Mr. Cowling was hopping and F. Goodden making circuits on same machine. During the afternoon Mr. Sydney Pickles was on the 60-h.p. Caudron, reaching an altitude of from 6,000 to 7,000 ft. finishing with a splendid spiral.

On Thursday the pupils were out at 4.20 a.m. Test flight by M. Baumann. F. Warren started off for his *brevet* tests, but had to come down owing to engine trouble. Messrs. C. George, Pendlebury and Lieut. Bewes were doing good straight flights on 35-h.p. Caudron No. 2, Mr. Cowling hopping, and Capt. Jenings, a new pupil, received his first instruction on same machine. M. Baumann also out later on 60-h.p. Caudron, taking a passenger, when he made a splendid flight to Harrow and back.

Temple School.—On Wednesday last week, at 4.30 a.m., George L. Temple made a test flight on Caudron, and handed over to Douglas Ritchie, who flew steadily for 10 mins. Messrs. Penny, Vaile, Lance and Lieut. Ambler all showed improvement on straights. In the evening all the pupils were again out, and G. L. Temple later flew solo for 12 mins. School opened under G. L. Temple at 4.15 a.m. on Thursday, A. Vaile, M. Lance, Lieut. Maurice Ambler and D. Ritchie all doing straights in good style, also R. Penny flying well. G. L. Temple was flying in fine style for 15 mins. On Sunday, G. L. Temple gave a short exhibition flight in big wind. At 4.15 a.m. on Monday, after a test flight by G. L. Temple, Messrs. Ritchie, Ambler, Vaile and Penny were all on the Caudron, making good progress, G. L. Temple again flying solo for 10 mins.

Bristol School.—Excellent solos by Lieut.-Col. Hamilton on Monday, last week, Lieut. Burns, Messrs. Adams (two), Gipps (two) and Delaplane. Pizey on Bristol gave tuition to Major Hewetson, Messrs. Gipps, Garnett and Delaplane. Pixton on Bristol 80-h.p. monoplane for flight with Mr. Garnett as passenger. Pizey winding up flying by taking Lieut. Dilworth (prospective pupil) for a flight.

Pizey gave a trial in the evening, then gave a trip to a prospective pupil. Lieut. Griffiths resumed his tuition after a 6-weeks' absence, and made a long solo in good style, his hat blowing off, and though cut in two by the propeller, the latter was not damaged. Pizey took Mr. Garnett for a long tuition flight in the side-by-side monoplane, whilst he gave first trip to Lieut. R. E. Orton. Pizey in a Bristol 80-h.p. monoplane, with Major Hewetson as passenger, made a long flight. Lieut.-Col. Hamilton made a short solo to finish up.

Good long solos first thing on Tuesday by Lieut.-Col. Hamilton, Lieut. Burns, Lieut. Priestly, R.N., Messrs. Adams and Delaplane. Pizey in side-by-side monoplane, with Lieut. Orton and Major Hewetson. Latter pupil then for solo for the first time in this machine and flew quite well. Lieut. Griffiths, R.A., up for *brevet* tests, which he accomplished, flying at a good height throughout. Pixton was up in an 80-h.p. monoplane for a long flight with Mr. Garnett as passenger.

Pizey tested in the evening, taking Mr. Welshman (prospective pupil) as passenger, and later giving first trip to Lieut. Osmond. Mr. Delaplane set out for his certificate tests, but had to land just when nearing completion of first half, with engine trouble. Mr. Delaplane set out for his certificate in another machine, and took first half in good style. Pixton, flight in an 80-h.p. with Mr. Garnett, and capital solos by Lieut.-Col. Hamilton and Lieut. Priestly, R.N., Messrs. Gipps and Adams, latter at 700 ft. with good figures of eight. Pizey with Lieut.-Col. Hamilton and Lieut. Orton.

On Wednesday, solos by Lieut.-Col. Hamilton, Lieut. Burns, Messrs. Delaplane and Adams. Pizey with Mr. Delaplane, and then on 80-h.p. monoplane. Pixton taking out one of the new tractor biplanes. Pixton twice with Lieut. Orton, but weather then too bad for more work.

On Thursday, busy first thing. All pupils out and good work done. Excellent solos by Lieut.-Col. Hamilton, Messrs. Delaplane and Adams, and Lieut. Priestly, R.N., and Burns. Pizey with Major Hewetson and Mr. Garnett in side-by-side monoplane, and Pixton with Lieut. Orton for numerous flights.

Royal Flying Corps. No. 3 Squadron.—Taking advantage of the splendid weather on Tuesday of last week, the R.F.C. pilots did some good cross-country work. Capt. Connor arrived from Farnborough on M. Farman 270, with Sergt. Bruce as passenger, having done the journey under the hour and flying at a height of 1,200 ft. Lieut. Anderson followed soon afterwards on BE 203, with Air-Mechanic Macrosty, taking 49 mins. and flying at a height of 4,000 ft. Lieut. Porter arrived on BE 204 with Air-Mechanic Powell, his time being 59 mins., and the height 2,500 ft. After Major Higgins and Lieut. Conran had indulged in some high flying, the former, on a H. Farman, went up to a height of 5,200 ft. very quickly. Lieut. Conran then went up on the Avro and reached a height of 6,500 ft., his machine climbing very rapidly through the clouds.

In the fair weather of Wednesday morning Lieut. Small made four flights on the M. Farman 270 with air mechanics as passengers. Capt. Mellor took over M. Farman 270, and made two flights with Air-Mechanics Burton and Harris as passengers. The rising wind led to the flying being discontinued until the evening, when Lieut. Conran, on Avro 288, put up a useful flight, followed by Lieut. Wadham, on BE 203, making two good flights. There was no more flying until Monday, owing to wet and windy weather. Monday morning saw a slight change, and Capt. Allen was out for a little while on Avro 288, on which Lieut. Conran afterwards made a flight of 1 hour and 5 mins.' duration at a height of 3,000 ft., doing some fine flying in very bumpy winds. Tuesday morning, weather prevented flying. It is understood that Major Higgins, D.S.O., is to take over command of the Lydd Flying Squadron, and Lieut. Anderson and some 50 men of the Corps have gone in advance. The sheds at Mile Ball will be occupied in a week or two.

Sussex County Aero Club (Shoreham).

ON Sunday Lieut. Porte arrived on his Deperdussin monoplane from Gosport at 7.15 p.m., and on Monday started for Hendon. Lieut. Kennedy, R.N., flew over from Eastchurch arriving at the 'drome about nine o'clock in the morning. He passed over Brighton and Hove at a good altitude in a very strong wind. Leaving Shoreham about ten he attempted to visit Portsmouth but found the air very bumpy. Consequently he ran back to Eastchurch with a following wind of 30 to 35 m.p.h. The 'bus was a Sopwith tractor, which gave a good account of herself. Mr. Shaw has been rolling on the Avro, and doing straights. The 100-h.p. Avro should be out by now, the floats having been strengthened. She flies exceptionally well, climbing very quickly, and getting off after a very short run.

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B. C. Hucks' Activity.

FOLLOWING up his exhibitions given at Spalding on Friday and Saturday of the week before last, Mr. Hucks gave another demonstration flight at that town on Tuesday of last week before starting on a cross-country trip to Nottingham. To people on the ground it appeared to be an unusually good day for flying, for there was no wind blowing and the sun was shining brightly, but on reaching Woolaton Park, Nottingham, where he was to give demonstrations in connection with the Nottinghamshire Agricultural Society, Mr. Hucks said that it had been one of the worst journeys he had experienced, the air being full of *remous*. Owing to the attraction of Mr. Hucks' flying at Nottingham, the Agricultural Show was able to draw a record "gate."

On Friday, Mr. Hucks left Nottingham and flew to Stamford, taking twenty-five minutes for the distance of thirty-eight miles. So fierce was the wind that at times he was travelling at a speed of well over a hundred miles per hour. Towards the end of the flight, he passed through a blinding rainstorm, which made it impossible for him to see the ground. As a consequence, he overshot his mark, and was forced to land. However, some farm-hands helped him to start away again, and within a few minutes he had safely landed at his destination, Burghley Park. There, on the Saturday, he gave a series of six demonstration flights to a very enthusiastic crowd, taking up as a passenger on one occasion a little girl of only twelve years of age, Miss Fanny Aldwinckle, the daughter of a Stamford town councillor.

On Tuesday last, after having the exhaust valves of his Gnome engine re-bushed, he flew from Stamford to Boston, where he was engaged to give flights on the Wednesday and Thursday.

Yesterday and to-day (Saturday) he has been giving exhibition flights at Louth. Louth, in reality, is a prohibited area, but we understand that Mr. Hucks has succeeded in obtaining exemption under the Aerial Navigation Acts of 1911 and 1913, giving a guarantee not to fly within a circle drawn with a radius of 1 mile from Louth Railway Station, and that he carries no passengers who are not British subjects.

ARMCHAIR REFLECTIONS.

By THE DREAMER.

Bravo! Hawker.

I WISH I could have been at Brooklands to have seen your smiling face when you came down from your lofty position. Your face always does me good when I gaze upon it. I suppose sometimes you feel a bit glum, like the rest of us, but I have never happened to be there to see it; and this time I am sure it would have acted as a tonic, and I am just a bit run down at the moment.

That you have got a machine that can climb, and that you know how to handle it, I know. I only wish Brooklands were a bit more get-at-able so I could see more of you and the others there.

Speaking of Brooklands, it does seem such a pity to me that something cannot be done to make your ground more attractive to the public. It is not so much, in my opinion, that it is a long way from London; as the distance to the sheds when one has arrived at the track. It only takes about twenty minutes to walk over, I know, but when one stands on the top of the test hill it looks to be quite a long way.

With such a fine ground and so many pilots and machines, I see no reason why Brooklands should not be as well patronised by the people of South-West London as Hendon is by the people of the North and North-West. It means a good deal of trouble, I know, and the spending of some money, but look what has had to be spent at Hendon just recently, and I am sure they will find it has been money well expended.

The trouble is, of course, that the sheds are in the wrong place; they ought to have been at the business end of the track, which would have made all the difference. They, like those at Hendon, however, were erected for school purposes, before flying as a spectacular performance had been thought of, and no doubt they were placed in what at that time was the very best position, and it is too late to think of removing them now. Something might be done, however, in the way of providing a conveyance, so that visitors would not have to walk all the way round the track to get there. Again, as it would be to the advantage of the railway company if visitors could be induced to visit Brooklands on Saturdays and Sundays, perhaps something could be arranged in the way of a cheap ticket from London. At any rate I should think it would be worth while getting into touch with them to see if anything can be done.

Just a Little Grumble.

Recently it was my pleasure to give my opinion of the Hendon of to-day. I cannot, however (being me), say all those nice things without having my little grumble, or rather, just pointing out what does not please me. I think something should be done, and done at once, to prevent so many people getting out on the course. Anybody who happens to know a pilot or a mechanic seems to be at liberty to walk out to the machines, and some day there will be a bad accident. It must be most worrying to a pilot when in the air to have to be eternally on the watch that he does not land on somebody's head. Another thing: on race days there is always sure to be some little discussion taking place round the table of friend Reynolds in reference to handicapping, and what not, things that should be settled privately, and I think it unwise that members of the general public should be allowed to stand round and listen. Only those whose business it is to be frequently at the aerodrome know how horribly monotonous that "seventy-horse-power-engine" announcement becomes. It is well to give particulars on occasion, but to keep repeating it every few minutes all day long, taken up as it is, and again repeated by the other megaphone men, gets on one's nerves. Besides full particulars of machines and engines are given in the programme. Whilst I am on the grumble, I might as well say that "under this stand" is nearly as bad.

A short time ago I saw Nardini's machine, through some little hitch at the starting line, wheel round and charge at the enclosure railings. It stopped by sheer luck a foot or two short, but I noticed that not one of the many people leaning over the railings moved back an inch, and I was afraid. The general public do not know as much about aeroplanes as we think, and in all probability assume that a pilot can pull up a machine when he likes, just like a car. Another few inches and there would have been a tragedy. I have thought that a piece of wood run along the ground, say 10 ft. or so in front of the railings, and just high enough to stop a machine, might be thought of. Better a machine should stand on its nose and break a propeller than career into a mass of humanity. It is extremely doubtful if a machine would even do that, as the travelling speed is almost nil by that time, but that fascinating propeller seems as though it never would stop running.

Too Good to be Lost.

There is just a little joke, which, being true, is too good to be lost, though it has nothing to do with aviation, except that the man who failed to score is connected with the industry. He had been reading the article of S.L.H. in the *Daily News and Leader* about the telephone girls and their playful little ways when connecting subscribers. S.L.H. had mentioned a number in his verse—"Nought, double one, two, double three, four, double five, Gerrard," and my friend thought he would be humorous and ring up the exchange and ask for that number, just to enjoy himself at the expense of the young lady at the other end. He did so, and was rewarded by hearing the number repeated in the usual businesslike way, followed a few seconds afterwards by "There you are, you're through." "Helloa! who are you?" "Finchley, three seven." "I don't want Finchley, three seven. Who are you?" "Colney Hatch Asylum. Who are you?" "Wrong number, ring off."

Aerial Transport?

I was speaking with a friend of mine the other evening, who has just returned from the wilds of—where I must not tell you—and the future possibilities of aerial transport cropped up. This friend has found, thousands of miles from habitation, a deposit, to the extent of millions upon millions of tons, which has a wonderful future, *could it but be shipped.*

The deposit is of a fibrous nature, and is so subtile that it can be woven into material equalled only by the finest silk, or so coarse and wear resisting as to be used for carpets. It is there for the picking up, and my friend has secured from the government of the place the sole concession for collecting it. No ship can approach within miles of the coast, and the nearest port is so distant that cross-country transport is out of the question. So there it lies. Will aerial transport ever solve this and similar difficulties? At present it seems improbable, but nothing is impossible. There is no limit. The time may come, and probably will come even in our days, when machines will be built large enough and powerful enough to cope with situations such as this.

FLIGHT

THE WRIGHT BROTHERS—A BIT OF HISTORY.

LIEUT.-COL. G. O. SQUIER, in asking the audience at the first Wilbur Wright Memorial Lecture to join with him in passing a vote of thanks to Mr. Horace Darwin for his most instructive lecture, made the following intensely interesting remarks :—

"It is very fortunate that Mr. Darwin and his company should have turned their attention towards aeronautical instruments, and I feel that the lecturer has contributed substantially to the progress of this new art. It is of first-class importance that we should be able to measure accurately, but measuring on aeroplanes in flight presents problems that are altogether new.

"Speaking of Wilbur Wright and of this tribute in his honour, I should like to mention that we have honoured him in our own country by a special Vote of Thanks of Congress and the striking of a special gold medal, which was presented by President Taft at the White House. This is in fact the highest honour we can confer on any individual.

"The achievements of Wilbur Wright and his brother are a credit to the Anglo-Saxon people, and therefore I think it is very proper that England and America should join in common recognition of his most valuable work.

"I first became acquainted with the Wrights through my association with the American War Department, and I would like to refer here to a document prepared at that time, which now has some historic interest. It is hardly believable, but five years ago the first specification for aeroplanes ever contracted for was drawn up in the American War Department in one afternoon, and on a single sheet of paper.

"The specification was very simple, and it was issued publicly, as is required by law, on December 23rd, 1907. In order to understand the situation, you must remember that the Government had recently granted £10,000 to Professor Langley for experimental work. At that time his accomplishments were not generally appreciated, and the support accorded him was regarded by many as a waste of public money. It will be apparent, therefore, that the public was in no mood at that time to listen favourably to any proposal to spend still more public money on aircraft. But, the Wright Brothers came to the War Department and informed us of what they could do, and they so convinced the authorities that money was found to give them their first contract. The contract promised to pay £5,000 for any heavier-than-air machine capable of carrying two people weighing in the aggregate 350 lbs., with petrol sufficient for 125 miles at a speed of 36 miles an hour. The issue of the contract was criticised severely, and the War Department was supposed to have lost its head.

"Coming from the Government the contract helped the Wrights in France and elsewhere. They constructed a machine to meet the conditions, and finished building it some time in the following September. Wilbur Wright in the meantime went to France, and so one brother in America and one in France, they simultaneously carried on their work. In due course the American machine was delivered to the Government. People heard many rumours about it, but never having seen anyone fly they did not believe in it.

"On September 19th, Orville Wright went out early in the morning and flew for 58 mins. ; only a few soldiers observed him. The effect was marvellous ; it disorganised Washington completely. That afternoon he flew again at half past four in the presence of every man, woman and child who could get up to the aerodrome.

"Wilbur Wright kept in close touch with Orville Wright throughout his work. It had been arranged between them that the first flight of an hour in duration should be accomplished in America, and Wilbur Wright made his own flights so that Orville Wright should make the hour's flight in America first.

"A sad accident occurred a few days later, when Lieut. Selfridge was killed, and Orville Wright nearly lost his life. It delayed the contract and disappointed everyone. But Wilbur Wright, in France, thereupon flew for an hour, mainly, I think, in order to cheer his brother, who was then lying in the Army hospital at Fort Meyer, Va.

"The American Government extended the time limit for the completion of the contract, and ultimately the Wrights secured a speed bonus, so that the total amount paid for the machine was £6,000. The machine with which they made their successful bid is now permanently exhibited in the Smithsonian Institute at Washington, as the property of the American Government.

"During the period of the completion of the contract, the Wrights kept their one idea always in sight. They were there to fulfil this contract, and nothing would swerve them from their work. No one could ever tell when they would fly. Frequently it would happen that the President would drive over to see them fly, and almost as often he would have to drive back again disappointed. They were absolutely uninfluenced by any outside forces, and even when Congress came over *en masse* they would not fly if they thought it inadvisable. Not only would they not fly, but they would not say why either. I have never known men with a more wonderful knowledge of the physical properties of materials. They knew the different kinds of woods and metals and how to prepare them. If a part got broken, they would sometimes bring a piece of wood all the way from Dayton in order to repair it. Their attention to absolute detail was profound, yet never without reason. The brothers were not alike in some ways. They always argued a point, and on any particular question one would take the opposite side to the other. In this way they worked wonderfully well together.

"In their contract flight for distance we required them to go five miles and back, from Fort Meyer to Georgetown. Orville Wright, who had been hurt the year before, insisted on carrying it out, although Wilbur would willingly have relieved him of this difficult and dangerous journey.

"Progress in the art of flight has rapidly advanced since those days, and it will continue so to advance. To that end the use of reliable instruments, about which Mr. Darwin has spoken this evening, will contribute much, and therefore I feel the greatest pleasure in asking you to join me in a hearty vote of thanks to the lecturer for his most interesting address."

THE ORIGINAL AMERICAN ARMY CONTRACT FOR AEROPLANES.

WE reproduce below the full text of that interesting and historic document referred to by Lieut.-Col. G. O. Squier, and dealt with also editorially this week. The following contract was issued by the United States Signal Corps on December 23rd, 1907—that is to say, before Farman had won the Grand Prix for a circular flight of 1 kilometre.

So far as the majority of the general public was concerned, therefore, there was not the least justification for the remarkable terms of this contract, but those, at any rate, who were regular readers of the *Auto.* (where this document was originally published in England), and had thus kept themselves acquainted with what the Wrights had done in America, must have realised that, startling as the terms were then, they nevertheless represented no more than the Wrights themselves had already accomplished, and in respect to which they had convinced the American Government.

Having regard to the predominant military character of aviation at the present time, and particularly, we may add, to the casual official support that was until recently extended to aviation in this country, this early action *over five years ago* in the United States, must be admitted to stand to the very great credit and foresight of the American Government.

"TO THE PUBLIC :—Sealed proposals, in duplicate, will be received at the office of General Allen, Chief Signal Officer of the Army, until twelve o'clock noon, on February 1st, 1908, on behalf of the Board of Ordnance and Fortification, for furnishing the Signal Corps with a 'heavier-than-air' flying machine. All proposals received will be turned over to the Board of Ordnance and Fortification, at its first meeting after February 1st, for its official action. Persons wishing to submit proposals can obtain necessary forms by application to General Allen, War Department, Washington, D.C.

"The specifications cover the construction of a flying machine supported entirely by the dynamic reaction of the atmosphere, and having no gas-bag. The flying machine will be accepted only after a successful trial flight, and no payments on account will be made until after the trial flight and acceptance. The Government reserves the right to inspect any and all processes of manufacture. The specifications are as follows :—

"The general dimensions of the flying machine will be determined by the manufacturer, subject to the following conditions :—

"1. Bidders must submit with their proposals the following :—(*a*) drawings to scale showing the general dimensions and shape of the flying machine which they propose to build under this specification ; (*b*) statement of the speed for which it is designed ; (*c*) statement of the total surface area of the supporting planes (*d*) statement of the total weight ; (*e*) description of the engine which will be used for motive power ; (*f*) the material of which the frame, planes, and propellers will be constructed. Plans received will not be shown to other bidders.

"2. It is desirable that the flying machine should be designed so that it may be quickly and easily assembled, and taken apart and packed for transportation in Army wagons. It should be capable of being assembled and put in operating condition in about one hour.

"3. The flying machine must be designed to carry two persons, having a combined weight of about 350 pounds, also sufficient fuel for a flight of 125 miles.

"4. The flying machine should be designed to have a speed of a

least 40 miles per hour in still air, but bidders must submit quotations in their proposals for cost depending upon the speed attained during the trial flight, according to the following scale: 40 miles per hour, 100 per cent.; 39 miles per hour, 90; 38 miles per hour, 80; 37 miles per hour, 70; 36 miles per hour, 60; less than 36 miles per hour, rejected; 41 miles per hour, 110; 42 miles per hour, 120; 43 miles per hour, 130; 44 miles per hour, 140.

"5. The speed accomplished during the trial flight will be determined by taking an average of the time over a measured course of more than 5 miles, against and with the wind. The time will be taken by a flying start, passing the starting point at full speed at both ends of the course. This test subject to such additional details as the Chief Signal Officer of the Army may prescribe at the time.

"6. Before acceptance a trial endurance flight will be required of at least one hour, during which time the flying machine must remain continuously in the air without landing. It shall return to the starting point and land without any damage that would prevent it immediately starting upon another flight. During this trial flight of one hour it must be steered in all directions without difficulty and at all times under perfect control and equilibrium.

"7. Three trials will be allowed for speed as provided for in Pars. 4 and 5. Three trials for endurance as provided for in Par. 6, and both tests must be completed within a period of thirty days from the date of delivery. The expense of the tests to be borne by the manufacturer. The place of delivery to the Government and trial flights will be at Fort Meyer, Va.

"8. It should be so designed as to ascend in any country which may be encountered in field service. The starting device must be simple and transportable. It should also land in a field without requiring a specially prepared spot and without damaging its structure.

"9. It should be provided with some device to permit of a safe descent in case of an accident to the propelling machinery.

"10. It should be sufficiently simple in construction and operation to permit an intelligent man to become proficient in its use within a reasonable length of time.

"11. Bidders must furnish evidence that the Government of the United States has the lawful right to use all patented devices or appurtenances which may be a part of the flying machine, and that the manufacturers of the flying machine are authorised to convey the same to the Government. This refers to the unrestricted right to use the flying machine sold to the Government, but does not contemplate the exclusive purchase of patent rights for duplicating the flying machine.

"12. Bidders will be required to furnish with their proposal a certified check amounting to 10 per cent. of the price stated for the 40-mile speed. Upon making the award for this flying machine these certified checks will be returned to the bidders, and the successful bidder will be required to furnish a bond, according to Army Regulations, of the amount equal to the price stated for 40-mile speed.

"13. The price quoted in proposals must be understood to include the instruction of two men in the handling and operation of this flying machine. No extra charge for this service will be allowed.

"14. Bidders must state the time which will be required for delivery after receipt of order."

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THE AVION FLOATS.

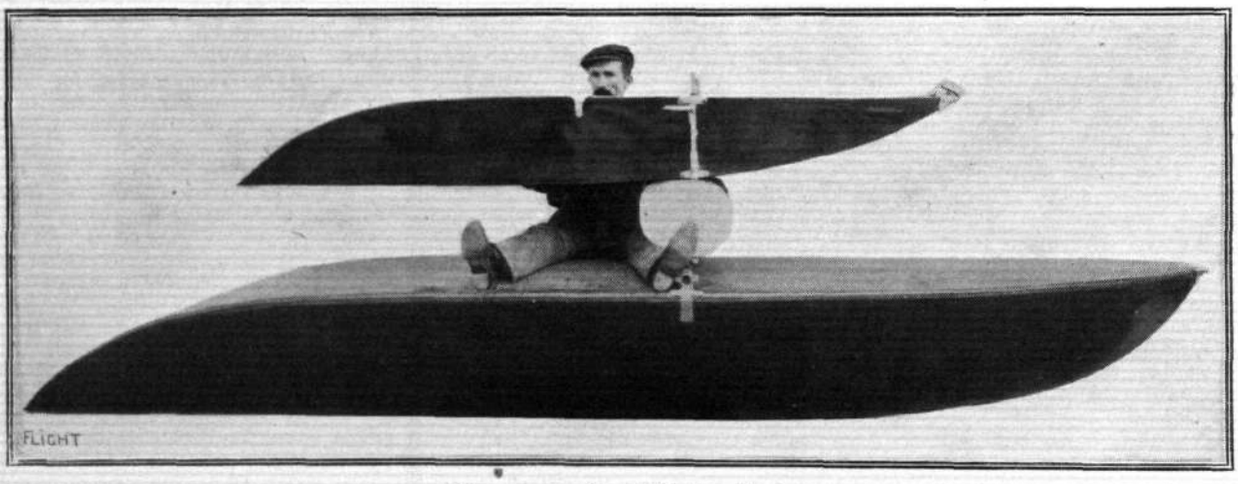
IT is apparent that the float constitutes a specialised detail of the present-day hydro-aeroplane, and as such it should afford a legitimate field for commercial enterprise somewhat akin to that already developed in connection with the propeller.

This, at any rate, is the view held by the newly-formed Avion Float Co., which is, we believe, the first British firm to enter upon aeronautical business solely for the purpose of float building. The object of the Company is not to champion any one particular type of float against other types, but to concentrate upon the general problem of float design and construction, so that their resources may be equally at the service of all who can make use of them.

It is quite likely that many aeroplane constructors may find it advantageous to have their floats built for them, especially at first, rather than to establish the necessary department in their own works; and to such firms the endeavours of this pioneer float construction company should be a considerable convenience. The industry of aeroplane building in England is not so wonderfully prosperous for those engaged in it that one can afford to be sparing of words of good will towards those who are prepared to make the best of the present situation, and the present instance seems to be a case in which they are well merited, for there can be no question that the business of waterplane construction should be an important one in this country.

For the convenience of designers who require preliminary approximate weights or Avion floats the following table has been prepared:—

Style. The figures give the maximum ratio of length to beam.	Weight (lbs.) per cubic foot capacity of float.			
	Small, up to 7 cu. ft.	Medium, 7 to 32 cu. ft.	Large, 32 to 70 cu. ft.	Extra large, over 70 cu. ft.
Extra broad, 3 : 1	1·9	1·6	1·4	1·2
Broad, 6 : 1	3·0	2·6	2·3	2·0
Long, 9 : 1	3·7	3·2	2·9	2·5
Extra long, over 9 : 1 ...	4·5	3·9	3·4	3·0



Two examples of Avion floats.

It will be understood that these figures are merely intended to give a rough first approximation. For instance, a rectangular section float of about 5 : 1 length : beam having 40 cubic feet total displacement, will probably weigh about 40 × 2·3 = 92 lbs.

These floats are built with watertight partitions and with inspection covers to each compartment if required. They can, in fact, be built to any special design for those who wish to carry out experimental work. The works of the company are at 17, Wharf Road, City Road.

FLIGHT

AVIATION IN THE BRITISH ARMY.

IN the House of Commons on the 4th inst., Col. Seely informed Sir C. Hunter, that during the past year in the military wing of the Royal Fying Corps there had been five fatal accidents, involving the loss of eight lives. The strength of the wing on May 13th was 74 officers and 682 men. From statements made in the Press it appeared that during the same period in France there had been 13 fatal accidents, involving the loss of 17 lives. The number of officers and men employed in the aeronautical branch of the French Army was 1,174. From information in his possession he believed that we had had fewer fatal accidents than other countries in proportion to numbers.

Mr. Joynson-Hicks asked whether it was the intention of the War Office to confine orders for aeroplanes in future entirely to those built under contract to Government design, or whether, as was the custom in the Navy, promising machines of other designs would be bought and tested by officers of the Royal Flying Corps.

Col. Seely: The reply to the first part of the question is in the negative; and to the second part in the affirmative.

Mr. Joynson-Hicks asked whether the Army branch of the Royal Flying Corps was now in possession of the 148 effective aeroplanes which had been foreshadowed; and, if so, how many of them were English and how many of foreign manufacture.

Col. Seely: There have been some considerable delays in delivery, and in consequence the total number of aeroplanes has not reached the number required. The present number is 126, of which 69 are of English make, 31 of the 126 are in various stages of repair.

Mr. Stewart inquired whether, at the inquiry into the fatal accident to Lieut. Arthur, on May 27th, at Montrose, it was stated that there was an old fracture in the machine which had not been sufficiently repaired and which was the cause of the accident; and, if so, would steps be taken to cause a complete and regular examination to be made of all machines used by the Royal Flying Corps.

Col. Seely said his attention had been drawn to the report. It could not be admitted that any machine which was in a precarious condition was allowed to be used by the Corps. Every machine was most carefully inspected before a flight was made.

Mr. Fell asked the Secretary for War if any aeroplanes in use by the War Office had been in accidents or been damaged and repaired; and, if so, how they were tested previously to flying to ascertain that there were no hidden flaws or weak spots in them resulting from the damage.

Col. Seely: Some of the aeroplanes in use have been damaged in accidents and have been repaired. They are thoroughly tested previously to flying; the tests applied depend upon the amount of repair that has been found necessary.

Mr. Fell: In a matter of life or death such as this does the right hon. gentleman consider that a machine that has been broken should be repaired?

Col. Seely replied that it would be an absurd rule and one that would not be accepted anywhere that a machine which had been damaged should be scrapped.

On Thursday of last week, when the House of Commons was in Committee of Supply on the Army Estimates, Mr. Joynson-Hicks drew attention to the question of aviation in the Army. The time had come when they should be given the exact facts, as there was very great public anxiety on the matter. The scare, if it were a scare, could be got rid of in five minutes if the Secretary for War would make a full and complete statement as to the number of aeroplanes at present in possession of the Army wing of the Royal Flying Corps, as to what flying they were capable of, and whether they were on a war footing, as the right hon. gentleman had said they always would be, in regard to transport, officers and reserve? The right hon. gentleman said, on March 19th, that there were 101 Army aeroplanes, but on March 24th he admitted that only 84 of these were up to the very moderate standard he (Mr. Joynson-Hicks) had asked for. Colonel Seely had promised that by the end of May there would be 148 machines, of which 130 would be up to the standard suggested, viz., that they would be able to rise 3,000 ft. in the air, fly 50 miles an hour, and continue for 3 hours in the air. The right hon. gentleman, however, had told them that the number was not so large as he had anticipated, entirely because of the difficulty in getting the machines delivered.

The House was entitled to ask the Secretary for War definitely whether the 80 machines, or the 120 the right hon. gentleman now had, were ready to go to war to-day. The answers which Colonel Seely had given to a large number of questions during the last few months were a very ingenious mode of baffling the questioner.

With regard to the question of repairs, our Army mechanics were expected to tackle every variety of machine, whereas in other countries the makers themselves executed the vital repairs. He contended that the machines ought to be sent back periodically to the makers to be overhauled. The Royal Aero Club's technical committee, who examined into every fatal accident, had reported in regard to an accident which occurred to one of the Cody machines that the aircraft had structurally deteriorated, and that its condition at the time of the flight was precarious. The committee strongly recommended that machines which had been in existence for some time should undergo a critical examination. There could not be a stronger condemnation of the mode in which repairs were carried out. What right had the Government to send a young lieutenant up in a machine whose condition was precarious? Lieut. Arthur, who recently met his death, flew one of the B.E. machines—which Col. Seely had described as superior to anything else in the world—two days after it was flown to Montrose.

He could not vouch for them, but there were rumours of a very serious nature in Farnborough and Aldershot that that machine was known to be in a bad condition before it was sent to Montrose.

Col. Seely said it was the first he had heard of such rumours, and he regarded it as a very serious statement. He asked for the source of the rumours.

Mr. Joynson-Hicks: At present I will not give any names. I sent two gentlemen, one of whom was a retired Army officer, down to Farnborough this week, and I interviewed them personally. They assured me there are rumours of that kind floating about.

With regard to this particular machine, the right hon. gentleman had told the House that the wood of the rear of the wing-tip, where the damage probably started, had been repaired at some time, but that it had not been possible to discover when and where. That condemned the organisation of his flying corps.

In March Col. Seely told them that there was a difficulty in getting engines, that he was going to offer a prize of £1,000 for a good engine, and that the details of the competition were being settled. Manufacturers were still waiting for these details, and to-day there was not a single machine of the Royal Flying Corps driven by a British engine. What was to happen in time of war if engines were smashed and needed replacement? ABove all things, they must have a British industry.

Col. Seely: Hear, hear.

Mr. Joynson-Hicks said that he had written to eight of the leading firms of aeroplane builders, asking them in what time they could deliver machines. They all replied that they could deliver one a week if they were given a decent order, but if orders were dribbled out for twos and threes manufacturers could not be expected to lay down the necessary plant. If orders for 25 or 50 at a time were given, as in France and Germany, there would be no difficulty in getting the machines.

Then they were told by the right hon. gentleman that he had 126 machines, of which 31 were undergoing repair. That left 95, which the right hon. gentleman said were on a war footing. If the War Office had them, where were they? They would be at the disposal of the three active squadrons. The airship squadron had three little machines—the "Beta," everybody knew, was no use for war; the "Gamma" was not much better; and the "Delta," he believed, had never made a prolonged flight, while the Zeppelins could go up and keep afloat for two days.

Of the three squadrons of aeroplanes one was at Montrose, whither five machines were sent early this year. Very rarely had more than two or three been fit to fly, and sometimes all had been out of order at once. There were eight or nine officers, and the machines had been overworked. They had been used for learning, and it was unfair and cruel to put an officer, at peril of his life, to fly long distances on such machines.

A fortnight ago four more machines were sent to Montrose, one of which had been smashed. That left eight, of which six were in flying order. At Salisbury Plain last week there were two B.E. biplanes, built experimentally last July. They needed overhauling, and were not machines on which the right hon. gentleman would like to go up himself. There were four Maurice Farman biplanes, two without engines and needing overhaul by the makers. There were four Henry Farman biplanes, one of which had no engine, it being under repair. There was also one Avro of 50-h.p., a useful but not very powerful machine. At Larkhill there were eleven machines, nine of which could fly, but not one a first-class machine which could compare with the high-powered machines of France and Germany. He (Mr. Joynson-Hicks) had not the figures for Farnborough, but at the review held by the King seventeen aeroplanes were turned out, of which eight were brought from Larkhill and were not Farnborough machines at all. Many of them had been used for training.

Again, at the parade on the King's birthday, two days ago, they could only put up twelve machines, and they had to send to Larkhill to complete even that number. Where were the flying

squadrons, each of which ought to have at least twelve machines? They had Montrose with six, Larkhill with eight, and Farnborough with eight, a total of twenty-two. Of those, eight were Maurice Farmans, which did not fly more than fifty-two miles an hour, three or four were Henry Farmans, which could not do more than sixty miles an hour, and eight were B.E. biplanes, which machines, he imagined, after their recent performances, were somewhat under a ban. When accidents occurred to monoplanes a few months ago the right hon. gentleman barred monoplanes, and he should pause before sending any more Army officers up in them. The right hon. gentleman could easily upset all his criticisms, not by producing words or documents, but by producing the machines themselves. Let the right hon. gentleman produce, not 120, but eighty machines which could fly efficiently, and he would make him the most profound apology which had ever been made in the House of Commons.

Col. Seely said he would arrange for Mr. Joynson-Hicks to start inspecting the machines on the following day.

Mr. Joynson-Hicks, continuing, said: Perhaps I may have to make another apology, but I will deal with one more question, namely, the extraordinary order given by the right hon. gentleman at the end of March, 1913. He then gave an order by telegram or telephone to an aeroplane manufacturer. I am quoting now from a paper of the importance of *The Daily Telegraph*. The idea was that the right hon. gentleman wanted to get as many machines as he could, and he offered to buy from this manufacturer new or old monoplanes or biplanes, tested or untested. According to *The Daily Telegraph* he got one good machine—a Henry Farman—one Henry Farman biplane of more than doubtful value; one old Nieuport monoplane that was built to fly in the Gordon-Bennett race three years ago, incorporating every fault criticised by the Monoplane Committee; one English-built biplane, which had only been flown two or three times: and one old 50-h.p. biplane, which had been used for training pupils for two years past. That statement has been repeated in another newspaper—the *Observer*. I knew it all at the time, but I was so disgusted and so ashamed that I would not even put these facts in a question before the House. I felt that if they were facts they were so detrimental to the management of the Royal Army Flying Corps that I would not make myself responsible for them. I only make myself responsible for them to-day to the extent that they were in the public Press. When a newspaper of integrity like *The Daily Telegraph* charges the right hon. gentleman with buying anything he could get hold of in order to assure us that he has got 101 machines, that requires a strong answer from him. The information I have been able to gather is that we have not got these machines. I still believe my facts and figures are true, but if the right hon. gentleman will produce these machines and let a Committee of the House see them fly, I shall be one of the first to congratulate him.

Mr. Sandys expressed a hope that Col. Seely's invitation to Mr. Joynson-Hicks to inspect the Army's machines might be extended to a Committee of a few members of the House, but Col. Seely said that although he could arrange for Mr. Sandys to accompany Mr. Joynson-Hicks he certainly would not allow a Committee of inquiry to inspect the aeroplanes.

Mr. Sandys said it was a national question, and if Col. Seely could not give the information to the whole House he should allow a representative Committee to be appointed.

Sir H. Dalziel said he thought the War Office should have a special Test Committee, which would give the greatest confidence to all members of the corps, to see that all machines were properly tested.

Colonel Yate protested against the manner in which the Army Flying Corps had been provided for. The right hon. gentleman had cut down every arm of the Service to do it. He had made a reduction of 1,450 men in different arms to get a flying corps of 1,005, and to provide for the expenses of that corps of £115,500 he had made reductions in the Service generally amounting to £86,300.

Mr. Lee (U., Fareham) said even the exiguous programme which the right hon. gentleman himself put forward had not been and was not being made a reality. Admittedly the programme applied only to the Expeditionary Force, which, according to the right hon. gentleman's own standard, required eight squadrons of aeroplanes if it went to war. Yet the right hon. gentleman only professed to having provided three, and they knew now that even those were not complete. The right hon. gentleman only proposed to provide five altogether by the end of the present year. Probably the eight squadrons would not be obtained until the end of the year after next. That was a very serious situation for our Expeditionary Force, which was supposed to be ready for war at a moment's notice.

No suggestion was being made by the right hon. gentleman for the aerial equipment of our Home Defence Army, and if, unhappily, it was called into operation, in addition to all its other obvious disadvantages, it would have to grope about for the enemy practically blindfolded, whilst every movement and position of the defending force would be exposed to the vigilant and all-seeing eyes of the enemy's aerial service. In March, Col. Seely told them three times that he expected by May 31st he would have 148 machines available, and on the right hon. gentleman's own showing we had now only 95 available, 31 of the 126 being under repair.

Apparently Col. Seely was satisfied with his three little airships as sufficient equipment of the Expeditionary Force. That might be so, but where were his reserves, for, of all craft, airships were the most delicate, and, so far as they knew, there was no provision for wastage.

With regard to aeroplanes, it was, of course, impossible to get them if manufacturers were given no encouragement to invest their capital in the enterprise.

There had been a striking example of the persistent discouragement of British manufacturers by the Government in the prohibition of the very interesting and valuable competitions for hydroplanes instituted by the *Daily Mail*. The proposed competition might have involved a technical breach of the Aerial Navigation Act, a measure which would not be of the slightest value when dealing with an enemy, though it might be of some effect with regard to tourists, but this was a case in which there should be some relaxation of the letter of the law. Did the Government wish to prevent civilian flying altogether? If they did this would be the only country in the world that did it, and we should fall still further behind in this new branch of science.

In the course of his reply to the debate Col. Seely said: I do not propose to deal with the more absurd statements to-day, because, of course, they are not generally made in this House, but I will first deal with the very important matter of the accidents which have taken place.

There have been statements made that we have suffered greater loss of life in aeronautics than other countries, owing to the fact that we have been less careful in our selection of machines or less careful in testing them. First of all, with regard to tests. Before we accept any aeroplane—and this applies to them all—all aeroplanes have to fulfil the following tests:

First there is a loading test, by which the strength of the construction is tested; that is to say, the machine is loaded with a weight of sand. During this any one wire may be cut, and the aeroplane must suffer no permanent distortion.

Further, there is a test for the landing carriage, which goes over a certain fixed rough course, at the place where all our aeroplanes are tested. The Committee will realise that the landing carriage of the aeroplane may often be more important to the life of the aviator even than the wings themselves.

Then there is the flying test, of not less than an hour's duration, during which the aeroplane must carry a full load and oil and petrol sufficient for the prescribed number of hours.

In addition the maximum and minimum speeds must be demonstrated, and the workmanship and the material must be to the satisfaction of the Superintendent of the Royal Aircraft Factory.

All these things have to be done in the case of each aeroplane. Furthermore, before any aeroplane takes a flight it is inspected by the commanding officer of the place where the aeroplane may be, and every effort is made to see that everything is correct. Every test that we know of is applied, and not until he certifies that it is fit to fly does the officer take a flight. The next question is what has been the result of the great care which I allege we take in avoiding accidents.

This House has been told a great deal more about the number of aeroplanes and men in this country than has been the case with any other deliberative assembly, for it is generally considered inadvisable to give information rightly considered to be of vital importance. We have gone as far in giving information as it is wise for us to go.

I come to the question of accidents. Last year we had five accidents, resulting in eight deaths. These gallant young officers died as truly in the service of their country as they would have done in the most glorious acts upon the battlefield. It is extremely difficult to avoid these accidents. The utmost care may not succeed in averting them. The accidents to which I have referred took place on what, by any known test, were the very best machines and the most carefully tested we have got.

The Committee will remember the recent competition open to all the world. Aeroplanes from many countries entered for that, and very remarkable performances were achieved. There was one aeroplane which did not compete that the judges thought probably superior to all. Four out of our five accidents were caused by winning machines in this competition, which against all the world had shown themselves the most airworthy and the best constructed.

In the case of the accident at Montrose the machine was considered by our flying officers to be of an exceptionally good design. Most of them, so far as my information goes, prefer it to almost any other. It had flown all the way to Montrose from Farnborough in bad weather. It had been most carefully tested before starting, and upon its arrival; we cannot be certain as to the cause of the

accident, but what we think is that there was a defect in the woodwork at the tip of one wing. As the Committee knows, the woodwork of an aeroplane is covered by canvas. We keep the most careful record of any breakage which occurs. There is no record of any repair, in this case, of the woodwork.

But it occurs to me—my advisers have suggested it—that we might make things even safer if we were to have spare wings and at frequent intervals completely to strip the wing and examine not only the outer, but inner fabric. I am told this might be done without weakening the structure, and I have given orders that the extra spare parts which will be necessitated if we do this should be provided.

Now I compare this country with other countries in the matter of accidents. The accidents in the different countries last year were as follows :—

	No. of accidents.	Men killed.
Britain	5	8
France	13	17
Germany	21	27
America	5	5

Our aeronautical personnel is 756. The figure I have for France is 1,174. I do not know whether that is accurate. I am not aware of the precise numbers of the German personnel or pilots, but it is not much different from our own, and the list of accidents is three and a half times as large. The United States, with probably under an eighth of aeroplanes, showed the same number of accidents.

Flying in England has peculiar difficulties and dangers. In our enclosed and hilly and woody land local air disturbances are much more severe than in open country. And it is much more difficult to find a landing-place. Two-thirds of the accidents in this country are due to difficulties of landing. On the plains of France you can descend almost anywhere.

I think I have shown—the credit is not mine, but that of the very great care taken by our flying officers—that, though the whole thing is so new (a year or so ago there was nothing, and now we have flown all these tens of thousands of miles in the most difficult country in Europe), judged by any available test, we are far more free from fatal accidents than any country except France, and perhaps as free as France has been.

That reflects great credit on those who have to do this difficult business. I cannot give a comparison of the miles flown, as we do not know the miles flown abroad. Even if we did, it would be most misleading, because to fly round an aerodrome is so very safe compared with flying across country. The number of miles flown is no test. Even if cross-country flights are taken into consideration, I think it would still be found that this country has enjoyed a remarkable immunity from accidents, compared with other countries, except France. But I can assure the House that no efforts and no expense will be spared to ensure that everything will be done to make this—which must be the most dangerous of all parts of our service—as safe as mind and money can make it.

With regard to the misapprehensions which have existed—what I venture to call the absurdities—I have indicated that I hoped that I should not be asked very often to state the precise number of aeroplanes we have. No other country gives such information. I did think it desirable, however—and I spoke with the full concurrence of my colleagues—to make a general statement, in view of the fact that the House knew nothing of what had been done, although they knew that we had started in May of last year with practically nothing at all. No sooner was that information given in March last than there came a chorus of denials. I found it difficult to convince people, and I waited until at last I found a man who was an acknowledged authority on the subject, and who definitely stated that it was not the case that the War Office had the number of aeroplanes stated. Lord Montagu of Beaulieu wrote me a letter, which I must read again, as it has been raised again to-day. Do let us dispel these foolish suspicions, and then we can get on to real business, and see what we ought to have in addition.

Colonel Seely then read extracts from Lord Montagu's letter, which was published in FLIGHT of April 26th.

I really should have thought, continued the right hon. gentleman, that that would have disposed of it, but up gets Mr. Joynson-Hicks, and begins again. I will make him an offer. If he likes to come and see the same documents that Lord Montagu saw, I shall be only too pleased.

We shall never get on with a proper discussion of this subject, or with that co-operation between parties which I hoped for, until this absurd suspicion is dispelled. I can produce to the hon. gentleman eighty machines without giving away any secret, and he will be able to tell us what he thinks about them. I hope he will have a good many flights himself, and will see what admirable machines they really are.

On the question of type, Mr. Joynson-Hicks referred to the Maurice Farman and Henry Farman machines as if they were obsolete and unworthy to be classed. That is not the opinion of any aeronautical authority that I know of. I should say that those particular machines we have are, for military purposes, of extraordinary value.

Mr. Joynson-Hicks: I said these particular machines could not go beyond fifty-two miles an hour, and the Henry Farman not beyond sixty miles an hour; whereas the modern French monoplanes can go up to seventy-five and eighty miles.

Col. Seely: We have machines that go at a greater speed than that. You do not want all your aeroplanes at this great speed; the principal purpose of aeroplanes is observation. For that purpose these machines would be of the newest type of that particular make, and would be of peculiar value for military purposes.

What really is the position, assuming that the facts I have stated are correct? We have made very remarkable advances. A little more than a year ago we had practically no aeroplanes, no pilots, no flying school, no skilled mechanics, no organisation, and every other country except France was in the same condition. A little while before I took my present office we decided that we must make a move, and we did. I ask the committee to say that in that short time we have made a great advance. We had practically no aeroplanes; we have now something over 120. We had practically no pilots—we had one or two extraordinarily efficient pilots, and I am glad to say that some of them are still flying—but only a few.

Now we have 146 and of these 83 are first-class pilots. Those 83 have passed a more exacting test than the French military test, or that of the higher test of the Royal Aero Club. They have to learn the principles of mechanics, construction of engines and aeroplanes, meteorological observation in the air, navigation and flying by compass, cross-country flights, photography, signalling by all methods, and have to have a knowledge of the different types of warships. All this they go through for thirteen weeks, flying in all weathers and practically every day. Eighty-three men have done this, and all in less than a year. It does speak volumes for the energy and determination of the people of this country once they have the opportunity to go forward. These pilots, except for the most highly-trained pilots in France, are the most highly qualified pilots in the world. All this reflects credit on the naval officer at the head of the Central Flying School.

A year ago we had no flying school at all; now we have a first class establishment, passing through pilots at the rate of about sixty or seventy in the year for the military wing alone, whilst a proportion of the pilots trained are naval officers. A year ago we had no school of mechanics; we could not get mechanics; they were not in the country. Now we have a very large staff of trained mechanics, and trained not only in ordinary mechanical work, but in the very highly specialised mechanical work connected with aeroplanes. We want more of these mechanics.

Although we had only three military airships, they were very efficient machines—in fact, remarkably so—and if hon. members would go to Aldershot to see them arrangements might be made for them to go up in them. These airships had been thousands and thousands of miles, all over the country, without a single accident—a favourable comparison with the experience of other countries, where there had been a series of disasters. With regard to the proposed *Daily Mail* hydroplane competition, the Government were delighted at such public spirit, but of course they could not agree to the flight taking place over prohibited areas. He hoped some arrangement would be come to whereby the competition could yet take place, and what he could do to effect that he should be pleased to do. In this matter, however, national interests completely overrode every other consideration.

A year ago we had no organisation in connection with this particular service. Now we had a sound foundation of organisation. Delay had been caused, not by lack of money, but by difficulty in obtaining the materials wanted. By attempting to hurry matters they might induce scamped work, and that might result in accidents. The policy of the Government had been to get all they required within the British Isles. These machines should be treated like other engines of war. If they had not actually reached, they were rapidly approaching, the desired position in regard to aeroplanes. Nine engines were under test, and he had little doubt the right one would be obtained in a very short time. They did not claim that we had great aeronautical establishments like those of France, but our position did not compare unfavourably with that of other countries.

He should say that, whereas a year ago we were nowhere, we were now certainly amongst the first three, and possibly in the first two, countries in regard to provision of machines, skilled pilots, and organisation for training. He did not claim that the number of machines was adequate, and he had been asked when the proposed squadrons would be ready. He could not give a date. They had done things quickly, and if they tried to do them quicker they would waste money. The industry was becoming more standardised, and they were now in a position to go forward in the direction of securing that this country should hold her own in the air.

BRITISH NOTES OF THE WEEK.

THE ROYAL FLYING CORPS.

The following appointments were announced in the *London Gazette* of the 6th inst. :—

R.F.C.—Military Wing.—Capt. Philip L. W. Herbert, the Sherwood Foresters (Nottinghamshire and Derbyshire Regiment), from Flying Officer to be a Flying Commander. Dated May 30th, 1913.

Special Reserve of Officers.—Second Lieut. Robert O. Abercromby to be Lieutenant. Dated June 7th, 1913.

Handing over the "Britannia."

THE formal handing over of the Blériot monoplane, presented by the Imperial Air Fleet Committee in conjunction with the *Standard*, to the New Zealand Government was completed at a banquet given by the Committee at the Connaught Rooms on the evening of the 5th inst. Lord Desborough presided, and was supported by a large and distinguished company, including the Hon. Sir John Cockburn, K.C.M.G., the Rt. Hon. Sir Joseph Ward, Bart., K.C.M.G., Sir Charles Wakefield, Major the Hon. Ivor Guest, the Hon. Arthur Stanley, Sir Algernon Firth, Bart., Sir James Dods Shaw, Mr. Davison Dalziel, M.P., Mr. William Coward, &c.

Seeing that the machine itself could not very well be handed over the presentation took the form of an address, which was handed by Lord Desborough to the Hon. Thomas Mackenzie, High Commissioner for New Zealand. Mr. Gustav Hamel, who made the non-stop flight from Dover to Cologne on the machine, was presented with a gold medal, and his passenger, Mr. Frank Dupree, received a bronze replica of the medal. Mr. Hamel also received from the Shell spirit interests a beautiful model Blériot, executed in silver by Messrs. Mappin & Webb.

Mr. Hamel made the speech of the evening, for the simple directness of his story of his great flight had a human interest for those who heard it. To reproduce verbatim Mr. Hamel's simple story of how he started in advance of a rain storm, flew into bad weather over the Channel, got knocked down about 300 feet in one drop just before passing over the French coast, encountered more hail and rain as he approached Germany, and still worse weather the further he flew, would convey nothing in print, but those who heard the man himself tell it in his own words listened to something that they should not readily forget.

The Handley Page at Leicester.

Last Saturday and Sunday the 50-h.p. Handley Page monolane gave an exhibition of flying at Leicester. Owing to the usty weather, flying did not start on the Saturday till the evening,

The solid silver model of the Blériot monoplane used by Mr. Gustav Hamel in his splendid flight from London to Cologne. This artistic work was designed and manufactured by Messrs. Mappin and Webb, and presented to Mr. Hamel by the British Petroleum Company ("Shell" motor spirit) at a banquet on June 5th.

when Mr. Whitehouse ascended and flew right round Leicester twice, making a fine landing at the finish. In a second essay he gave a demonstration of banking and switchback flying. At 8.45 p.m. when it was dusk, he made another fine flight, guided back to the ground by a large flare composed of two tins of petrol; this concluded the day's flying.

On Sunday, the weather very much restricted the flying, but Mr. Whitehouse made another very fine flight round the outskirts of the town.

Brighton-Shoreham Aerodrome.

IT has been pointed out to us that in a sentence in which we state that the authorities have prohibited every place on the south coast which is suitable for the building and development of hydro-aeroplanes, that this is not quite in accordance with fact, as there is the Brighton-Shoreham aerodrome on the south coast, which is not so prohibited. We willingly draw attention to this, as we believe there is no more better placed and suitable aerodrome than this spot. Moreover, the proprietors have done very much good work here up to the present, the position being particularly suited for hydro-aeroplane work as well as ordinary land machines. Raynham, who ought to know, has great praise for its qualities for water-planing, and he has made several flights, using only the water actually adjoining the aerodrome.

Hurlingham, not Ranelagh.

BY a slip last week under a couple of photographs, the venue of the Royal Aero Club's "Hare and Hounds" balloon contest was given as Ranelagh. Of course, as it appeared in the text, it should have been Hurlingham.

Yarmouth's Mayor in an Aeroplane.

THE Mayor of Yarmouth, Councillor R. G. Westmacott, enjoyed a twenty minute trip on a Maurice Farman biplane at the newly-established naval air station at Yarmouth, on the 4th inst. The pilot was Lieut. C. L. Courtney, who a few days previously had flown the machine from Hendon to Yarmouth. The Mayor was taken over the harbour at an altitude of 1,200 ft., and also passed over Gorleston and Caister, and on his return to *terra firma* said he found an aeroplane as comfortable as an armchair.

"Navyplane."

IN the House of Commons last week Mr. Burgoyne suggested that if the Admiralty had not decided upon an official designation for naval hydro-aeroplanes, perhaps the First Lord would consider "navyplane" as a suitable title. Mr. Churchill said the suggestion was interesting and would be considered with the other suggestions which had been made.

An Aeroplane Factory for Merton.

MERTON, in Surrey, appears likely to be destined to be famous as a manufacturing centre for aeroplanes, as we understand that the Aircraft Manufacturing Co., who build the Maurice and Henry Farman biplanes in this country, have taken over the large skating rink in the High Street.

A Martin-Handasyde Mem.

FROM Mr. H. P. Martin we learn that the statement, which has been made in several places, is erroneous, that Mr. Toop is joining the Martinsyde firm, nor is there any suggestion of his doing so in the future.

A Sopwith Aviation Co. Appointment.

WE learn that Mr. Sidney F. Burgoine, has been appointed assistant works manager of the Sopwith Aviation Co., of Kingston-on-Thames. Before joining the firm last January, Mr. Burgoine was with Burgoine, Hampton Wick, Ltd., the well-known launch and boat builders.

The Indian Flying Corps.

THE active organisation of the Flying Corps for the Indian Army is making some progress, and it is now announced that a sum of three lakhs of rupees has been allotted for the purpose of starting the school which is to be situated at Sitapur. As we announced some time ago, Capt. S. D. Massy has been chosen as the Commandant, and the first instructors will be Capt. C. G. Hoare, Lieut. C. L. Newall and Lieut. H. L. Reilly, all of whom are certificated pilots, but who will undergo a special course of training at the Central Flying School at Upavon before taking up their duties in India.

Wedding Bells.

ON Tuesday last, in London, Mr. James Valentine, the well-known aviator, was married to Miss Eileen Knox, only daughter of the late Maj.-Gen. G. W. Knox, C.B., and Lady Sybil Knox. Miss Knox is a niece of Lord Lonsdale.

FLIGHT

FOREIGN AVIATION NEWS.

A Maurice Farman Waterplane for the British Navy.

AT Buc, on the 4th inst., Maurice Farman was putting a hydro-aeroplane, fitted with a 100-h.p. V-type engine through a number of tests. The machine, which has been built to the order of the British Admiralty, also made some long flights on the following day.

Buc to Mailly on a Borel.

ON the 5th inst., Lieut. de Vergnette made a splendid flight from Buc to Mailly Camp on his Borel, his course being by way of Dijon, Belfort, Epinal and Nancy.

Long Flights on Breguets.

SERGEANT BRIDOU on a Breguet biplane with Salmson motor, on the 5th inst., made a non-stop flight of over 230 kiloms. from Chalon to Mailly Camp, by way of Mourmelon, Rheims and Sissonne. On a similar machine Lieut. Sensever went from Villacoublay to Valons and back.

Etampes to Chalons on a Farman.

ON the 6th inst., Capt. Bosquet, accompanied by Capt. Bertin, on a 80-h.p. Gnome-Farman, flew from Etampes to Chalons Camp.

Mourmelon to Mailly on a Farman.

ACCOMPANIED by a passenger, a French non-commissioned officer, Chatelain, on the 6th inst. made a trip through the rain from Mourmelon to Mailly Camp. Lieut. Clement, also on a Farman, made a similar flight, while Capt. Voisin flew with a passenger from Chalons Camp to Rheims and back.

Dijon to Epinal on Blériots.

ON his Blériot-Gnome, Lieut. Garnier, on Saturday flew from Dijon to Epinal, and Corpl. Peguet also made a cross-country voyage of an hour and a-half by way of Troyes, Mailly Camp and Bar de Duc.

A Borel Superior Pilot.

ON the 4th, Lieut. Delanney on a Borel made his second test for a superior *brevet* by flying from Buc to Pont Levoy and back, his first test having been made over the same course on the previous day. On the 5th inst. he flew from Buc to Mourmelon.

Cross-Country on Doutre Biplanes.

ON their Doutre biplanes Capt. Chanson and Sergeant Pinsard on the 3rd inst. went from Corbeaulieu to Paris-Plage and returned on the following morning.

Rapid Climbing on a Bleriot.

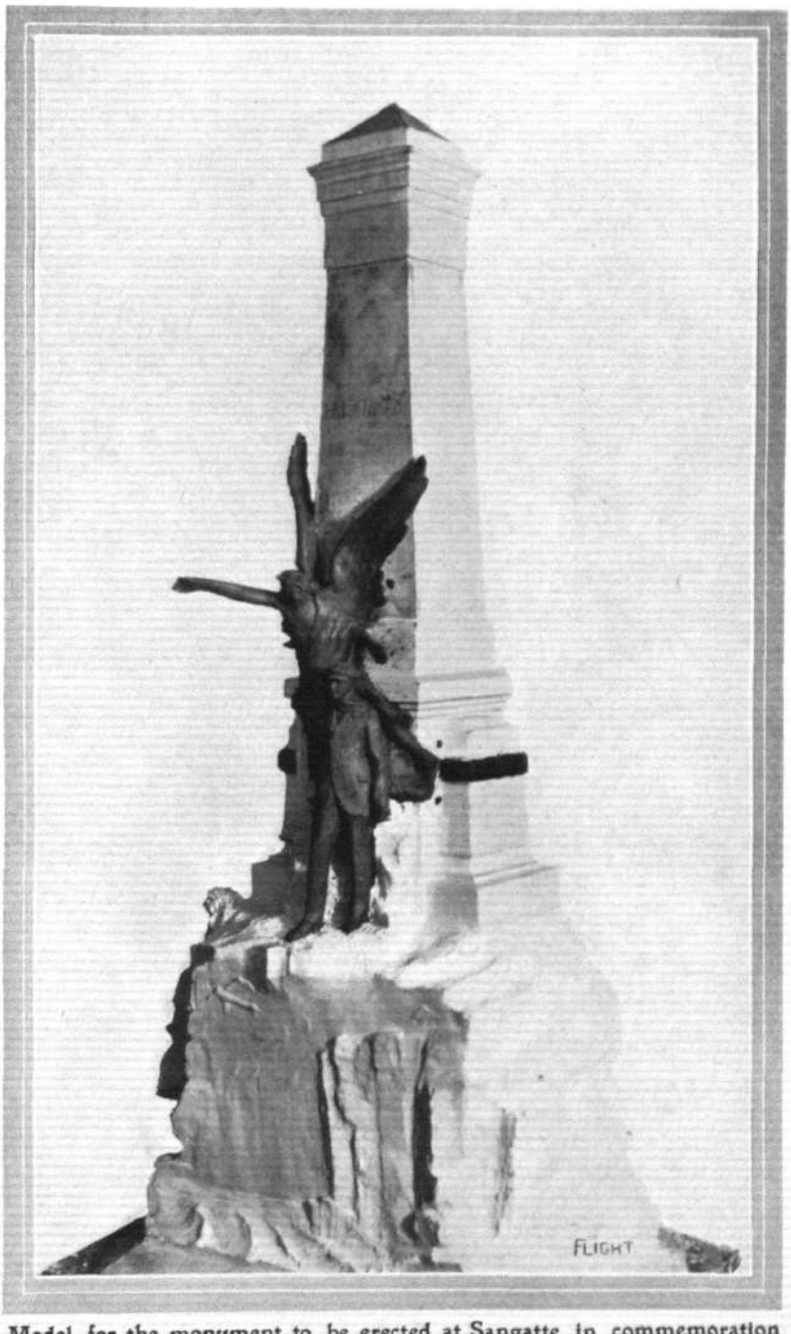
TESTING a 160-h.p. Gnome-Blériot at Buc, on the 3rd inst., Perreyon climbed 1,000 metres in 2½ mins., and in a subsequent trial with a passenger on board the machine attained a similar altitude in 3 mins.

Rheims to Villacoublay on Deperdussins.

FOR the fourth time within a month Capt. Lagarde and Lieut. Dietrich, on the 4th inst., flew from Rheims to Villacoublay on single-seater Deperdussin monoplanes.

New Farman Superior Pilots.

CAPT. LUCAS AND LIEUT. COLLARD, on the 4th inst., returned from Mailly Camp to Buc on their Maurice Farmans, this being their last cross-country test for superior *brevets*, and on Saturday Lieut. Collard made the altitude test, going up to over 1,800 metres. At Etampes, Touvet, a Comite Nationale pupil, made a 150 kilom. superior *brevet* test, flying over the Etampes–Mailly Camp course.



Model for the monument to be erected at Sangatte in commemoration of the late Hubert Latham, the first man to attempt the cross-Channel flight. This model, which has been accepted by the Aero Club of France, is the work of the sculptor Georges Veyez.

More Deperdussin Superior Pilots.

TWO pupils at the Deperdussin School at Betheny, made qualifying flights for superior *brevets* on Saturday last, Sapper Hostein going from Rheims to Amiens and back, while Sergt. Kopwitch flew over the Rheims–Peronne course.

Speed Range Tests on Moranes.

SOME interesting tests with Morane-Saulnier military monoplanes were made at Villacoublay on Saturday last. Brindejonc des Moulinais, on an 80-h.p. Gnome two-seater with a light load, obtained a speed range of between 62 to 131 k.p.h. Gilbert, on a 50-h.p. Rhone machine did from 67 to 118 k.p.h. On an 80-h.p. single-seater, Morane obtained a range of between 79 and 153 k.p.h., while Legagneux, on a 50-h.p. Gnome military machine, with a load of 160 kilogs., did from 71 to 114·4 k.p.h.

Buc to Pont-Levoy for Lunch.

BY way of making one of his qualifying tests for a military certificate, M. Lasnier, on Sunday, flew on his Blériot from Buc to Pont-Levoy, and after lunch he returned to Buc.

Vedrines has a Mishap.

JULES VEDRINES, who has been flying for some days in Algeria, had a narrow escape from serious accident near Mostaganem on Friday of last week. He was experiencing trouble with his motor, and in attempting to land his machine fouled some telegraph wires and fell to the ground. Fortunately, however, Vedrines escaped with nothing worse than a shaking.

New Records Recognised.

AT the meeting of the Commission Sportive Aeronautique on Monday last, official recognition was accorded to Perreyon's passenger height records of 3,840 metres and 4,960 metres, Lieut. Broccard's pilot and two passengers height record of 2,290 metres, and Frangeois's height record for pilot and six passengers of 850 metres.

A Double Fatality at Buc.

AN accident at Buc on the 5th inst. resulted in the death of the well-known biplane pilot Bernard and a lady pupil, Mdlle. Amicel. The latter had been taken up for instruction on a school machine with a double set of levers, and the accident would appear to have been caused by the manipulation of the wrong lever by the pupil. The machine came down at full speed with the engine running, and when only a short distance from the ground turned over. Both occupants of the machine were terribly injured and died some hours later in hospital.

Three on a Fokker.

THREE German officers, Lieuts. Muhling, Hofmann and Boehmer, on the 3rd inst. flew from Weimar to Brunswick, a distance of 160 kiloms., in 1h. 55m., on a Fokker monoplane with Mercedes motor.

A German Certificate Withdrawn.

CONSEQUENT upon the collision at Johannisthal which ended in the deaths of Capt. Jucker and his pupil Dietrich, the pilot's certificate of Wechsler has been withdrawn. It was stated that the latter pilot did not keep a proper distance from the other machine, but he claimed that owing to the inclination of his machine in turning he could not see Capt. Jucker's biplane.

An Aeroplane Review at Turin.

IN honour of the aviators who took part in the war in Tripoli, a review of aeroplanes was held at Turin on the 5th inst. Twenty-nine machines were present, and after the presentation of medals to those who had taken part in the war, they were flown, the manœuvres being watched with great interest by the Duke of Genoa and the Italian War Minister. The machines comprised a dozen Blériots, five Nieuports, eleven Farmans, and one Vendome.

An Aerial Reception at Venice.

WHEN the two German cruisers visited Venice on the 5th inst., they were escorted for fifty miles of the way by half-a-dozen naval hydravions, including two Borels and four Paulhan-Curtiss machines, the pilots having received special orders to meet the warships at sea.

Chevillard Visits Turin.

THE Italian Government having ordered a number of Farman machines, Chevillard visited Turin last week and carried out some of his wonderful flights before an Italian military deputation. Among the many passengers carried was Mr. D. L. Santoni, of General Aviation Contractors, who, it will be remembered, represents the Farman interests in Italy. Chevillard was, of course, using a biplane of the H. Farman type, but the Italian Government have also ordered a number of the Maurice Farman machines.

A Long Trip in Norway.

A NORWEGIAN Farman pilot, Lieut. Seyersted, on the 6th inst. made a flight of 240 kiloms. from Hoenefors to Friedrikstad and Gardemœn, and at the last-mentioned place he made a flight of 40 mins. duration at a height of 1,000 metres.

An "impression," by a passenger, of Chevillard's *chute de coté*.

Models

Edited by V. E. JOHNSON, M.A.

Tractors *v.* Propellers.

Mr. J. W. Burghope (Redhill, Reigate and District Aero Club), writing *re* the above says: "In my opinion—so far as my experiments have led me to see—there is little difference in the efficiency of the two types of propellers. The difference in efficiency, as Mr. Drake says, lies in the two systems.

"I give the following illustrations. Some time ago, nearly two years as a matter of fact, I had a 'big 'bus.' 1 – 1 – P_2, weighing 21 ozs., and flying with about 8 ozs. of rubber. The best flights were a little over 350 yds. Usual flights 300 yds. On the formula

$$\frac{\text{wt. of model (ozs.)} \times \text{distance (yds.)}}{\text{wt. of rubber in ozs.}},$$

the efficiency works out at $\frac{21 \times 300}{8} = 787{\cdot}5$. I had also a big Nieuport 'bus, weighing 38 ozs., and flying 100 yds., slightly more as a matter of fact, on 5 ozs. of rubber. The efficiency in this case $= \frac{38 \times 100}{5} = 760$; *i.e.*, 760 against 787·5, or practically the same.

"Those who are in raptures over the efficiency of propellers proper should remember that in the case of, say, a biplane with floats (*i.e.*, a hydro-aeroplane), the unfortunate propeller or propellers are working in the disturbed and cut-up air through which the planes and floats have just passed.

"A tractor, on the other hand, meets only undisturbed air. True, the slip stream, in the case of a tractor, may retard the machine a little, but a really efficient tractor screw pulling a well-designed streamline machine cannot and, I am sure, does not have a great retarding effect. The members of the Redhill and Reigate Club are all working on tractors for our next Ramson Cup Competition, and have already discovered what I can only term some remarkable things—one thing being that no tractor need dive or side-slip if properly designed and tuned up. Several of the machines have overcome this particular 'playfulness' of the type. They are also quite successful in gliding and landing on an even keel.

"If the tractor model had had but one-half the care and trouble spent on it that the propeller type has had, well, it would not be so inefficient. A number of people call them inefficient because either they are unable to tune them up properly or because they will not fly a quarter of a mile, quite forgetting that it is a different type of machine."

There is one point in Mr. Burghope's most interesting communication to which we would like to especially draw the attention of other clubs, namely, that this club is and has been, we believe, for some time concentrating its chief, if not its undivided, attention on some *particular* point in aviation work—to wit—the tractor type of model. This is as things should be, and is, we fully believe, the only way in which real progress can *now* be made. We emphasize the word "now," because it was different in the earlier days of model aviation. "Each on his own" was then a most excellent thing; everyone found out "something," but now so many "somethings" have been discovered—so many, that is, of the easier type—that the former method is, generally speaking, only likely to lead to rediscovery and corroboration, both excellent, no doubt, in their way, but not by any means equal in value to the discovery of "new somethings," which is best and easiest done by *concerted* effort.

Mr. H. H. Groves, writing *re* the above, says: "Owing to press of other matters I have been unable to write you with respect to tractors *v.* propellers before, and now Mr. Bragg-Smith has already said almost word for word what I should have written, I can only endorse his opinions."

Model Engineer Exhibition—Aviation Section.

Some particulars with reference to the above were published in May 31st issue. The following supplies some additional information not then to hand, and also certain alterations that have been made in the arrangements. In this particular section medals will *not* now be awarded for a certain standard of excellence, but will be competitive. There will be five classes as follows:—Class I, power-driven models; Class II, model hydro-aeroplanes; Class III, scale models and models embodying new ideas applicable to full-sized machines; Class IV, rise-off-ground models; Class V, aero motors for models. In Classes I, II, and IV, flying tests will be made after the close of the exhibition, and the performances of the models will be taken into account in awarding the prizes. In the case of Class V the models will be submitted to a bench test. Silver and bronze medals are offered to the best models in the above classes. The number of medals to be awarded will depend on the number and quality of the entries received. The competing models will be exhibited in a separate section under the management of the Kite and Model Aeroplane Association, who will appoint the judges and have entire control of this competition.

Each competitor must specify any parts of his model, such as castings, fittings, &c., which he may have purchased or which are not the outcome of his own labour. Subject to this the model must be throughout the personal work of the competitor. It must also be stated whether the design is original or not, or, if not, whence it was taken. Declarations on these points must be made on the official entry form. Entrance fee, 2*s.* 6*d.* for each model. Each competitor will be entitled to a free non-transferable season-ticket of admission to the Exhibition.

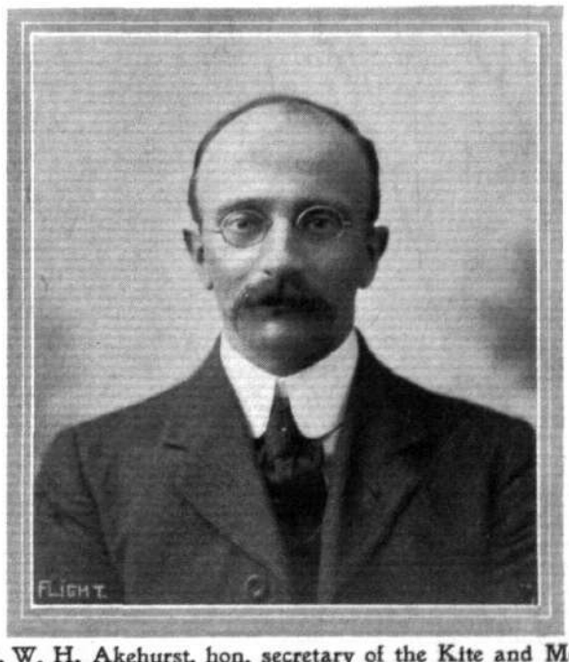
Entry forms and further particulars can be obtained from the secretary of the K. and M.A.A., or the Editor of the *Model Engineer*, Poppin's Court, Fleet Street, E.C.

The reader will not fail to notice that the classes are exactly similar to those selected in the case of the Olympia Show, save that the hand-launched model has been ruled out.

No information is so far to hand *re* minimum weights, qualifying durations, or particulars of the tests in Class V. Prior to the Olympia Show, the writer pointed out the mistake that in his opinion was being made in there being no separate class for tractors. The results of the competitions in that case fully bore out this opinion. No tractor was in the running; and this in spite of the fact that it was a tractor model which gained the *most* marks for design and construction in the case of the r.o.g. machines.

In spite of this, exactly the same mistake is being made in this case. Either there should be a separate class for tractors or the marks allotted for design and construction must be *considerably* higher than in the case of the Olympia Exhibition, in order that the two types can compete on equal terms; if they cannot do this, we are afraid one class will only be conspicuous by its absence. There is an old saying, "Once bitten, twice shy."

What have the tractorite exhibitors at Olympia to say on the matter? From one or two letters which the writer has received, it would appear that some of the readers of FLIGHT have the idea that he is to some extent prejudiced against the tractor machine. This opinion is quite wrong; whatever may be said against it, it is a prototype of a full-sized machine. It is a *model*, whilst the tail-type twin propeller machine, now so *fashionable* among modellists, has no full-sized prototype, and is a machine merely suited to the idiosyncrasies of the rubber motor, the tractor is vastly superior to such a type in every way.



Mr. W. H. Akehurst, hon. secretary of the Kite and Model Aeroplane Association.

To develop model aeroplaning along the lines of the machine referred to above is to develop it absolutely along lines on which it should *not* go.

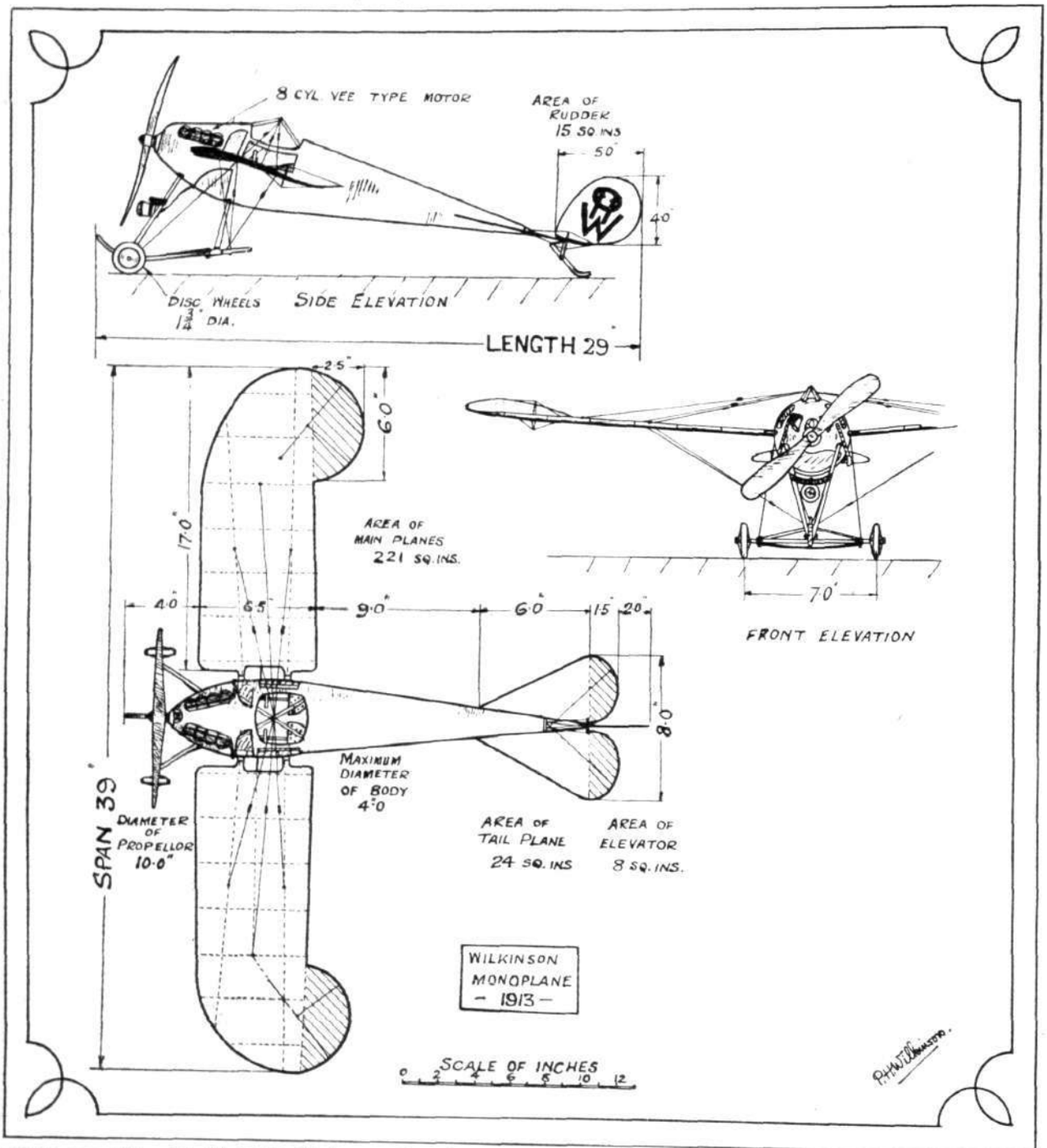
The K. and M.A.A. (1909-1913).

The Association known as the Kite and Model Aeroplane Association, which, during the past four years has done so much to develop and encourage model and kite work, not only in this country but also abroad, was founded at Caxton Hall, Westminster, on Feb. 21st, 1909. This meeting, being the result of a kite and model aeroplane display held on Wimbledon Common on Saturday, September 21st, 1908. At this competition Mr. T. W. K. Clarke was the only one who turned up with a model, a 4 ft. one, which naturally aroused the greatest interest.

From its very commencement Mr. W. H. Akehurst has been its secretary, and it is to his unceasing and indefatigable efforts and zeal in the cause that the Association can from the very commencement show one unbroken line of progress and has risen to be the leading association of its kind not only in Great Britain but in the world. We use the latter term advisedly because associations *on similar lines* are being formed on the Continent and elsewhere, such associations basing their rules, &c., on those of the Association.

As Mr. Akehurst says, "From the first it has been an uphill fight, but if one has followed its growth it will be seen that it has done good work. The first competition was held on July 3rd, 1909, a long account of which was published in FLIGHT, and during 1909 four contests were held and three displays were given. In 1910 there were twelve competitions, with the same number of contests in 1911. In 1912 there were sixteen, and this year the programme contains no less than twenty-four and seven trials, besides exhibitions at Olympia and the Horticultural Hall, in addition to other events—sufficient surely to prove that the Association is a real live one, and as such worthy of support. The number of affiliated clubs are now eight in number, with every sign of considerable increase in the near future. No effort will be spared to make the next winter programme a fuller one, and laboratory tests and discussions are already being arranged. Considering that France and other foreign countries are already equipped with Motor Kite Squadrons, it is certainly somewhat surprising that the authorities at home, although approached last year on the matter, have so far taken no action to provide any kite section.

"Strenuous endeavours are being made by the Association for the purpose of raising some volunteer squadrons. So far as the men are concerned, the first squadron is already at almost full strength, and all that is now wanted is a matter of financial assistance from some patriotic person or body of persons to enable the necessary equipment to be purchased."



Mr. P. H. Wilkinson's Olympia Scale Model.

General Details.—Two-seater (sociable) military model fitted with dual control and electric searchlight, all control wires being in duplicate. Being essentially a scale model ('75 ins. to the ft.), a dummy 100-h.p. Vic type motor with magneto and flywheel is fitted, but a rubber twin geared motor could also be used as there are fittings for the same. Torpedo covered in body, with non-inflammable celluloid windows in the sides and bottom. Framework of aluminium tubing.

Controls.—Pivoted lever for elevator, with wheel at top for lateral control. Footbar control for rudder.

Length 29 ins.; span 39 ins.; weight 16 ozs.; total area 253 sq. ins.; area of wings 221 sq. ins.; loading 10·4 ozs. to sq. ft.; probable speed (of full-sized prototype) 70—80 m.p.h.

Wings.—Double-surfaced, each with 7 ribs fitted with duplicate interwarp control wires to *ailerons*. The spars fit into sockets in the *fuselage*, the wings thus being easily removed for transport by unfastening the bracing cables.

Average chord 6½ ins. Length of wing 17½ ins. *Ailerons* 6 ins. by 2½ ins. (crescent shaped). Variable dihedral angle.

Tail.—Fan shape, non-lifting; length 7 ins.; span 8 ins.; elevators 3·75 ins. by 1·5 ins. (crescent shaped).

Rudder.—Balanced; height 4 ins.; length 4·5 ins.

Propeller.—Tractor-type integrale; diam. 10 ins., carved from the solid (mahogany).

Fuselage.—Circular, streamline form, max. diam. 4 ins.

Chassis.—Aluminium tubing $\frac{5}{16}$ in. and $\frac{5}{32}$ in. diam.

Wheels.—Disc, 1·75 in. diam., sprung on leaf spring.

Length of skid 9 ins. *Wheel track* 7 ins. *Tail skid* $\frac{5}{16}$ in. aluminium tubing, rubber sprung.

Mr. Wilkinson (15, Murray Road, Rugby) would be pleased to hear from anyone interested in models who lives in that district, with a view to forming a club.

Efficiency Formula.

Mr. F. Whitworth forwards us the following communication *re* the efficiency formula recently given in this section: "In its present state it seems rather senseless: I will give two practical cases to illustrate my point. Model A weighs 4 ozs., is driven by 1 oz. of rubber, and flies 400 yds. in 40 secs. Model B weighs 4 ozs., is driven by ½ oz. of rubber, and flies 200 yds. in 20 secs. The efficiency of these two models is undoubtedly the same, but yet, according to the efficiency formula, model B would get twice as many marks as the model A, as shown below:—

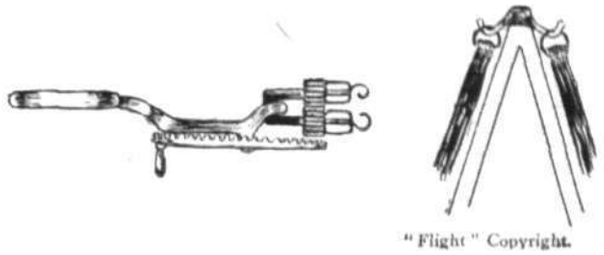
(A) $\frac{4 \times 400}{1 \times 40} = 40$ marks. (B) $\frac{4 \times 200}{\cdot 5 \times 20} = 80$ marks.

"To prove this is so, let us take model A when it has flown 200 yds. We might say that it has used half of its rubber; the efficiency now would work out at 80. Yet surely it is impossible for a model to become less efficient with increasing length-duration of flight.

"My idea of an efficiency formula for models is $\frac{\text{weight of model} \times (\text{distance less windage})}{\text{weight of rubber}}$. Where Mr. Ian Burrell made a mistake is by treating rubber in the same way that he would treat a petrol or steam engine. In the latter case the power given out remains the same, no matter how long it runs. But with rubber it is different. If a rubber motor gives out ¼-h.p. when made to run for 30 secs., it will only give out ⅛-h.p. if made to run for 60 secs. Mr. Burrell's formula is applicable to power models, and would read $\frac{\text{weight of model} \times \text{distance}}{\text{h.p} \times \text{time}}$. But this would only be judging efficiency so far as *speed* is concerned. There are other factors, such as climbing, &c."

Mr. Ian Macdonell's Twin-Winder.

In this winder (of which we give an illustration) the rubber strands, instead of being fastened direct to the hooks, are fastened to a small wire ring which, in its turn, rests in the hooks.



"Flight" Copyright.

Mr. Ian Macdonell's twin-winding system.

When it is desired to wind up the rubber motors, the rings are slipped off and hooked on to the double winder (which I had converted from an egg-beater by Messrs. J. Bonn and Co.) [we were not previously aware that Messrs. J. Bonn and Co. specialised in egg-beaters], and the winding is done as usual. I have used this method for several years, and have always found it quick, simple and effective.

Model Club for Westcliff-on-Sea.

Mr. E. Procter, 96, Valkyrie Road, Westcliff-on-Sea would be glad to hear from anyone in that neighbourhood interested in models, with a view to forming a club in that district.

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KITE AND MODEL AEROPLANE ASSOCIATION.

Official Notices.

British Model Records.

Hand-launched ...	Distance ...	R. Lucas ...	...	590 **yards.**
	Duration ...	**A. F. Houlberg**	...	**89 secs.**
Off ground	Distance ...	G. Rowlands...	...	**232 yards.**
	Duration ...	J. E. Louch ..	...	68 **secs.**
Hydro, off water ...	Duration ...	F. Whitworth	...	**37 secs.**
Single-tractor screw, hand-launched ...	Distance ...	**F. G. Hindsley**	...	**173 yards.**
	Duration ...	J. E. Louch ...	...	68 **secs.**
Do., off ground ...	Duration ...	J. E. Louch ...	...	**45 secs.**

Application for Affiliation.—An application for affiliation has been received from the Reigate, Redhill and District Aero Club. The number of affiliated clubs to date are as follows:—Aero-Models Association (Northern Branch), the Bristol and West of England Aero Club (Model Section), Hendon and Districts Model Aero Club, Leytonstone and Districts Aero Club, North-East London Aero Club, Paddington and Districts Aero Club, Reigate, Redhill and District Aero Club, Sheffield Model Aero Club, Wimbledon and District Model Aero Club.

Official Trials.—The next official trials will be held on the Hendon and Districts Model Aero Club's ground on Saturday, June 21st. Instructions as to route for those entering:—Tube to Golders Green; on leaving station, turn to the right for a few yards, then again to right down Rodborough Road. This continues into a road called The Vale; follow this road to about 100 yards from bottom, and the fields will be seen on right hand side of road. About 10 minutes' from Golders Green Station. From Cricklewood, Willesden, &c., the way is *via* Cricklewood Lane, turn to left along Greenfield Gardens, which leads to The Vale, thence as route above.

"Model Engineer" Exhibition.—The aviation section of this exhibition, to be held at the Royal Horticultural Hall from October 10th to 18th inclusive, will be organised by this Association, and the Council hope all will endeavour to help make this an unqualified success. The following are the five classes (entrance fee, 2*s.* 6*d.* per model) in which models can be entered, and attention is called to the fact that there will be flying tests in Classes I, II and IV:—Class I, Power-driven models; Class II, Model hydro-aeroplanes; Class III, Scale models, and models embodying new ideas applicable to full-size machines; Class IV, Rise-off-ground models; Class V, Aero motors for models. In Classes I, II and IV flying tests will be made after the close of the exhibition, and the performances of the models will be taken into account in awarding the prizes. Competitors will be notified as to time and place of these trials. Competitors in Class V will be required to submit their motors to a bench test to be arranged by the judges. Silver and bronze medals are offered for the best models in the above classes. For general conditions for this competition apply to the Secretary of the K. & M.A.A. All entries must be made on the official entry form.

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Competitions.—On Saturday, June 7th, the third annual competition for the *Model Engineer* Challenge Cup took place on Wimbledon Common in a gusty wind. This year the competition was altered from hand-launched to rise-off-ground. Mr. J. E. Louch, of the North-East London Club, proved the winner with 76 secs. duration, therefore holds the handsome trophy for the year, and won the *Model Engineer* silver medal which accompanies the cup. Mr. C. C. Dutton, of Paddington Club, with 52 secs. took the Association silver medal, and Mr. H. G. Bond, third, taking the bronze medal of the Association. The judges were Messrs. V. E. Johnson, G. R. Bragg-Smith and W. H. Akehurst. The following shows the test duration made by the first 12 (all monoplanes) out of the three trials allowed:—1. J. E. Louch (N.E. London Club), duration, 76 secs.; 2. C. C. Dutton (Paddington), 52 secs.; 3. H. G. Bond (N.E. London), 50 secs.; 4. W. J. Williams (K. & M.A.A.), 46 secs.; 5. F. W. Jannaway (K. & M.A.A.), 44 secs.; 6. G. Rowlands (K. & M.A.A.), 43 secs.; 7. R. Lucas (K. & M.A.A.), 39 secs.; 8. T. Carter (Paddington), 36 secs.; 9 H. Bate (K. & M.A.A.), 35 secs.; 10. H. Weston (K. & M.A.A.), 33 secs.; 11. A. F. Houlberg (K. & M.A.A.), 26 secs.; 12. L. H. Slatter (K. & M.A.A.), 24 secs. There were 26 entries, 5 of these failed to compete. The holder, Cyril Ridley, was unable to compete owing to business engagement. The time limit had to be enforced on two occasions, and competitors should note that it will be rigidly enforced throughout the year, also that no trial flights will be allowed after the start of any competition. This rule was broken on Saturday by one competitor, and it disqualified him from one round. The prizes were distributed by Mrs. Akehurst.

Hydro Competition.—To-day, Saturday, 14th, at Welsh Harp. An interesting contest should take place, there being a good entry, among which is a power-driven machine.

Gift.—The Council desires to thank Messrs. T. W. K. Clarke & Co. for the gift of a set of enamelled stakes and wire rope for protecting the rising surface when used on public grounds, so that the competitors shall not be impeded by spectators.

Model Competition, 100-Acre Field, Greenford (station, Perivale Halt, *via* Westbourne Park), June 28th, at 3 p.m. Entries close June 21st. Free to members; non-members entrance fee, 1*s.* Longest Flight Competition for Models—Rising off ground under their own power. (Open to the world.) Prizes (presented by A. W. Gamage, Esq.): 1st, challenge cup and gold medal: 2nd, silver medal; 3rd, bronze medal. Rules: 1. Competitors may submit models of any kind. 2. Competitors must be at the judges' flag at 2.45 sharp. Those not present at that time will be disqualified. 3. Reasonable repairs will be allowed at the discretion of the judges. 4. Models must start under their own power. 5. Each competitor is entitled to three trials, if time permits. 6. The length of flight will be measured in a straight line, from starting point to alighting point, and not along the line of flight.

27, Victory Road, Wimbledon, S.W. **W. H. AKEHURST, Hon. Sec.**

AFFILIATED MODEL CLUBS DIARY.

CLUB reports of chief work done will be published monthly for the future. Secretaries' reports, to be included, must reach the Editor on the last Monday in each month.

Aero-Models Assoc. (N. Branch) (25, CHURCH CRESCENT, MUSWELL HILL, N.).

JUNE 14TH, monthly competition, handicap duration, 3 o'clock sharp. June 28th, open competition, Hinchley ground, r.o.g. duration; minimum weight of models, 4 ozs.; three prizes; entries to secretary by the 25th inst.

Leytonstone and District Aero Club (64, LEYSPRING ROAD.)

JUNE 15TH, flying: 6.30 a.m., model yacht pond; 10 a.m., near Brickfields.

N.E. London Model Ae.C. (57, KING SQ., GOSWELL RD., E.C.).

JUNE 14TH, flying, Hackney Marshes, 3 p.m.

Paddington and Districts (77, SWINDERBY ROAD, WEMBLEY).

JUNE 14TH, club competition on 100-acre field, Greenford, particulars of which members will have received by post.

Wimbledon & District (59B, ST. PHILLIP'S ST., LAVENDER HILL).

JUNE 21ST, competition for hand-launched machines (duration) at 5.30. Mr. A. F. Houlberg has kindly presented the club with an r.o.g. monoplane for competition. June 14th, flying, 3 o'clock. June 15th, 11 o'clock and 3 o'clock.

UNAFFILIATED CLUB.

S. Eastern Model Ae.C. (1, RAILWAY APPROACH, BROCKLEY).

JUNE 14TH, first trials for South-Eastern Trophy for r.o.g. hydro. models weighing over 8 ozs.; members meet at Mount Pond, Blackheath, 3.30 p.m. June 15th, flying at Blackheath, Grove Park and Mitcham as usual.

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THE SCOTTISH AERONAUTICAL SOCIETY.

AT the fourth annual general meeting of the Scottish Aeronautical Society, held on the 2nd inst. in the Engineers' and Shipbuilders' Institution, Glasgow, Professor Sir J. H. Biles, LL.D., who presided, drew attention to the efforts made by the society to promote the establishment of an aerodrome in Scotland. Negotiations had been entered into with the Clyde Navigation Trustees for the purpose of securing the right to use their 200-acre ground at Shieldhall, but at the last moment the Trustees had found it necessary to make immediate use of the ground for their own purposes, and the project, therefore, fell through. The Council still had the matter in view and hoped to be in a position to make a statement shortly. Prof. Biles also referred to the effort made by the Society to assist aviation in Scotland, and in particular, to introduce the industry of aeroplane construction. He also drew the attention of the members to the problem of engine construction which, in a large centre like Glasgow with a community so closely identified with the development of Engineering, seemed to him to be suffering from neglect. Good work was being carried on by the model Section in interesting the younger members of the community in Glasgow. The Annual statement laid before the Meeting showed the Society to be in a sound financial position. Messrs. John MacGill, J. Clinkskill and T. Logan were re-elected to the Council.

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CORRESPONDENCE.

The Late Lieut. Desmond Arthur.

[1,762] The friends of the late Lieut. D. L. Arthur, of the Royal Flying Corps, who met his death under such exceptionally tragic circumstances while flying at Montrose on May 26th, have decided that a suitable memorial should be raised to one who died doing his duty.

With this object in view, a meeting was held this day at the Chamber of Commerce, Limerick, under the presidency of the High Sheriff of County Limerick (Mr. M. W. Gavin), when the following resolution was adopted:—"That subscriptions be unlimited and that names of subscribers, but not amounts, be published."

Subscriptions will be received and acknowledged by

F. A. JOHNSTON, Hon. Sec.
J. G. STUDDERT, Hon. Treasurer.

County Club, Limerick, June 4th.

Nomenclature.

[1,763] A new word was asked for in the House of Commons the other day for "Hydro-Aeroplane." No wonder! as it is a barbarous jumble of Latin, Greek and Anglo-Saxon roots. I suggest "Aquávis," with the accent on the second "a"

My suggested word is an abbreviation of Aquæ avis—a water bird; literally, a bird of the water. Further, it is euphonious, derived wholly from one dead language—equally suitable for use in any modern language, and would scan beautifully in a poem.

Birmingham. T. BUDWORTH SHARP.

AIRSHIP NEWS.

"Commandant Coutelle" Beats Records.

DURING some official speed trials, on the 5th inst., the Zodiac-built military dirigible "Commandant Coutelle," beat the records for French military airships, but the actual figures are not yet available. The airship carried sixteen persons, and Count de la Vaulx was in charge.

A New Schutte-Lanz Airship.

THE work of constructing the new "Schutte-Lanz II" is now rapidly approaching completion at Mannheim, and the dirigible should shortly make her appearance. The envelope has a capacity of 24,000 cubic metres, and she will carry five *nacelles*, that in front being reserved for the pilot. Four motors, each of 200-h.p., are to be fitted.

A New Military Zeppelin on Trial.

THE new military Zeppelin "LZ 19" was completed at the end of last week, and on Sunday she voyaged from Friedrichshafen to Stuttgart, continuing on Monday to Frankfort, passing on the way the "Sachsen" on her trip to Vienna. The airship is to be tested at Frankfort before being taken over by the German Army.

The "Sachsen" at Vienna.

TAKING time by the forelock, Count Zeppelin decided to make his trip to Vienna on Monday, as the weather was so fine, instead of delaying the start to the following day as originally intended. The "Sachsen" started from Baden-Baden at 5.30 a.m., and after a very fast trip arrived at the Austrian capital at half-past one. For about half an hour the airship was manœuvred in the neighbourhood of the Schonbrunn in order that the Austrian Emperor might see her, and afterwards a landing was effected at the Aspern aerodrome. The distance covered in the trip was about 435 miles.

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The Garros-Audemars Match.

THE match between Garros and Audemars which was held at Juvisy last Sunday did not prove so very exciting after all, as Audemars won all three events. It must, however, be pointed out that Garros was not in the best of health, as he was only just recovering from an attack of bronchitis. Both pilots were using Morane-Saulnier monoplanes fitted with 80-h.p. Gnome motors driving Chauviere Integrale propellers. In the first event, a 50 kilom. race, Audemars completed the 50 kiloms. in 27 mins. 24⅘ secs., while Garros gave up at 44 kiloms. The second test was a climbing one, and Audemars won by going up to 1,530 metres in 6 mins. 30 secs., while Garros was content with 1,300 metres. A landing event was the final one, and Audemars won by dropping at 21 metres from the selected point, while Garros was 51 metres out in his calculation. During the intervals Champel carried up two and three passengers at a time on his biplane, which has a 100-h.p. Anzani engine.

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January ...	619	12,097	2,412	4,005	—	1,510
February	3,110	17,361	36	3,447	—	690
March ..	640	20,425	950	1,924	600	1,042
April ...	4,820	15,593	72	5,524	50	1,413
May ...	7,494	51,241	1,350	3,726	154	830
	16,683	116,717	4,820	18,626	804	5,485

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